
December · 1952
the Magazine of
Appliance and
Metal Products
MANUFACTURING
finish
FROM RAW METAL TO FINISHED PRODUCT

Make "Ceramic" Your Headquarters

for COLORS CHEMICALS SUPPLIES

We are prepared to furnish prompt service on practically all chemicals and colors used by the ceramic industries. This service includes close attention to individual requirements by practical color engineers who take a personal interest in the customer's production procedures and sales objectives.

COLORS: **Color Oxides; Screening Colors; Smelter Color Compounds; Printing, Graining, Stamping, Banding and Decalcomania Colors.**

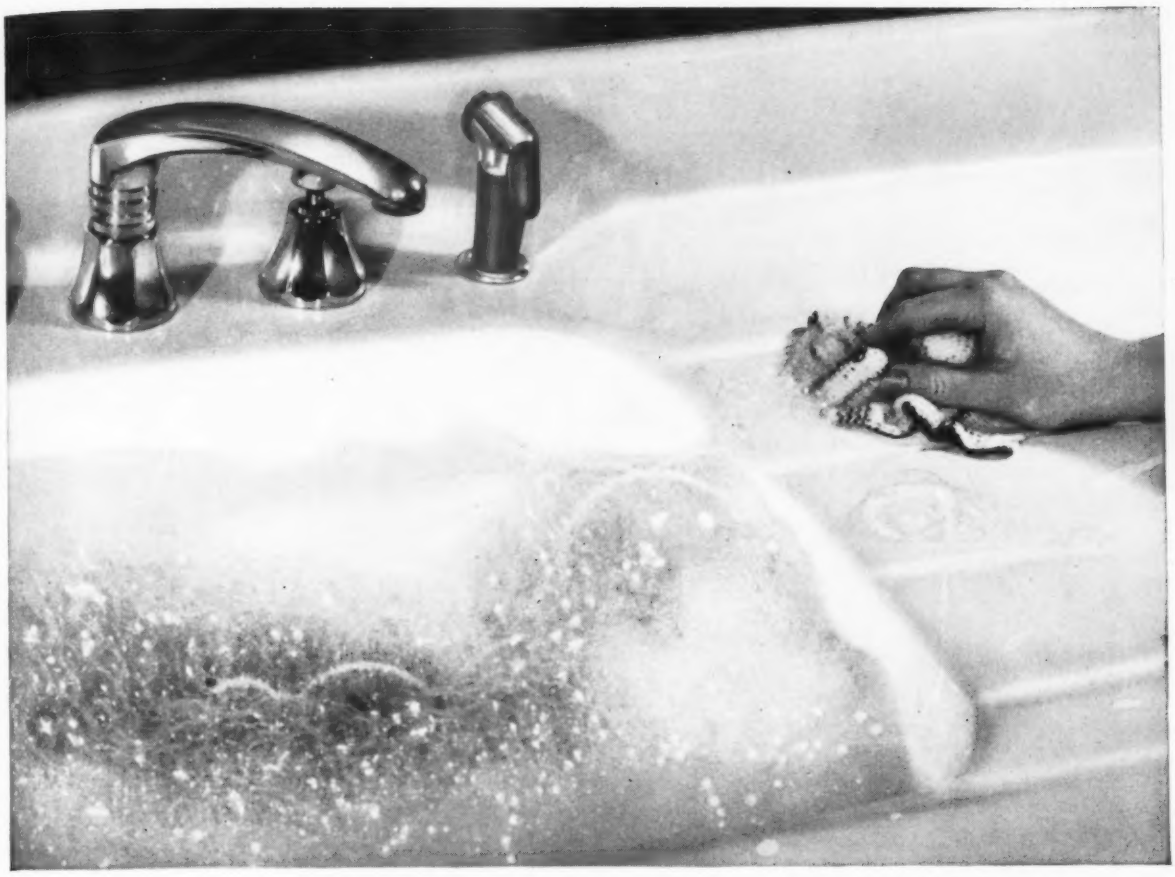
CHEMICALS

Aluminum Hydrate
Ammonium Carbonate
Antimony Oxide
Antimony, Black Needle
Arsenic Oxide, White
Barium Carbonate
Barium Chloride
Barium Molybdate
Bentonite
Bone Ash
Borax
Boric Acid
Cadmium Carbonate
Cadmium Sulphide
Calcium Carbonate
Cerium Hydrate
Chromium Oxide
Clay, Enamelers'
Cobalt Carbonate
Cobalt Compounds
Cobalt Nickel Compounds
Cobalt Oxide
Cobalt Sulphate
Copper Oxide
Cryolite
Epsom Salts
Feldspar
Flint
Fluorspar
Gum Arabic
Gum Tragacanth
Iron Chromate
Iron Oxides
Lead Chromate
Red Lead
Litharge
Lithium Carbonate
Lithium Metasilicate
Magnesium Carbonate
Manganese Dioxide
Molybdenum Compounds
Nepheline Syenite
Nickel Oxide, Gray
Nickel Oxide, Black
Nickel Sulphate
Opax
Potassium Bichromate
Potassium Carbonate
Potassium Nitrate
Potassium Silico Fluoride
Powder Blue
Pyrophyllite
Rosin
Rutile, Powdered
Soda Ash
Sodium Aluminate
Sodium Antimonate
Sodium Bichromate
Sodium Fluoride
Sodium Nitrite
Sodium Silicate
Sodium Silico Fluoride
Superpax
Talc
Tin Oxide
Titanium Dioxide
Urea Crystals
Whiting
Zinc Oxide
Zircon, Milled
Zircopax
Zirconium Silicate
Zirconium Oxide

SUPPLIES: **Screening Oils; Screening and Spraying Equipment; Lining Blocks, Porcelain and Silex; Porcelain Balls; Rounded Flint Grinding Cubes; French Flint Pebbles; Ball Mills, Laboratory and Production; Porcelain Jar Mills, Laboratory and Production; Paste Grinding Mills.**

WENNING CERAMIC COLORS TRADE MARK

CERAMIC COLOR & CHEMICAL MFG. CO.
New Brighton, Pa., U.S.A.



The finish that cleans in a jiffy helps sell your products

"I like *this* material best. It's so easy to clean." That's a big story about Porcelain Enamel in a few words. It came from a housewife who was buying a new kitchen sink. And it is a big reason why Porcelain Enamel attracts so many "repeat" customers for all kinds of products.

Porcelain Enamel is as easy to clean as a china plate. Sudsy water removes dirt and stains. If sticky substances prove troublesome, ordinary household cleansers may be used. They won't damage the attractive surface.

Porcelain Enamel has many other sales advantages too. It resists the action of fruit juices and commonly-used chemicals (acid-resisting Porcelain Enamel is used on practically all formed metal products).

COLORS NEVER FADE

In white or in colors, Porcelain Enamel never turns yellow with age or loses its original luster. It is heat-resistant too. And it offers abrasion resistance, low coefficient of friction and high heat emissivity. Important to manufacturers is its adaptability to the design of almost any product.

Of course, the metal beneath the Porcelain Enamel surface must have excellent bonding qualities, flatness, and uniform fabricating characteristics. That is why more manufacturers have used more Armco Enameling Iron over a longer period than any other enameling base. That is why too it has become known as the "World's Standard Enameling Iron."

Write for complete information about Armco Enameling Iron.

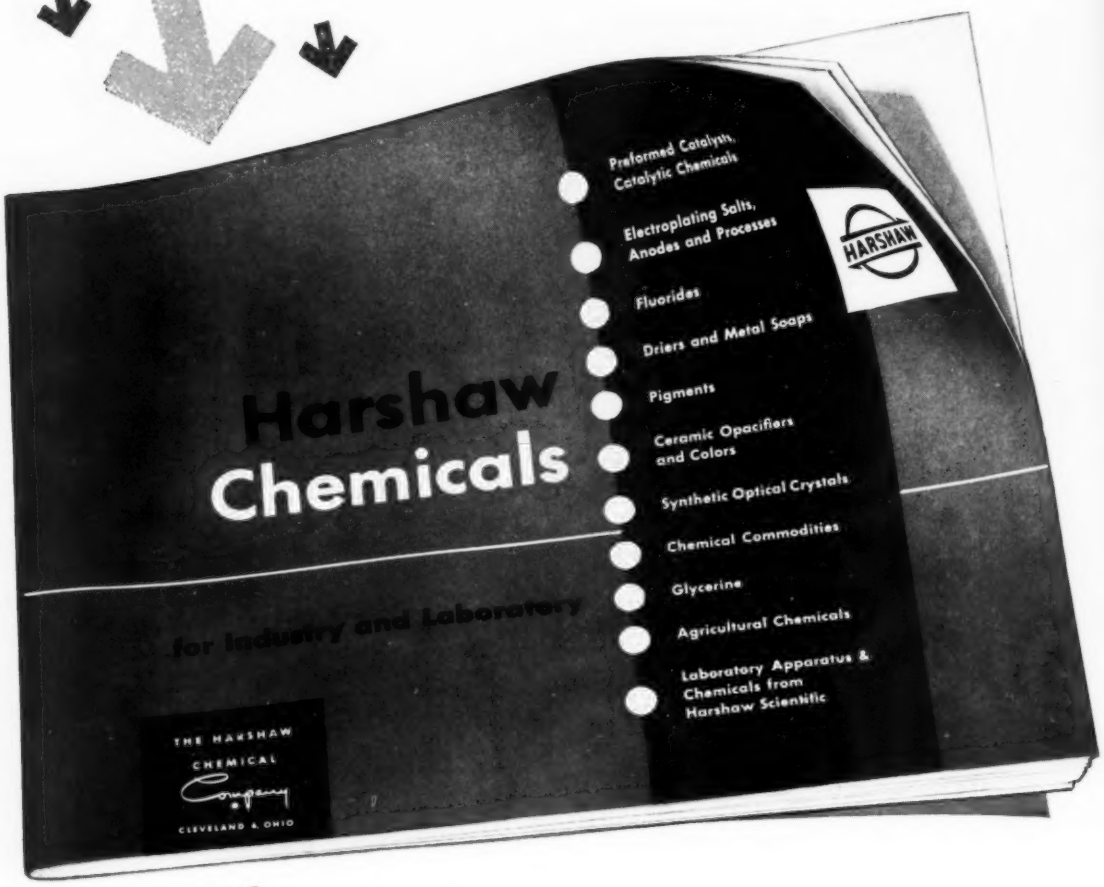
ARMCO STEEL CORPORATION

2912 Curtis Street, Middletown, Ohio • Plants and sales offices from coast to coast • Export: The Armco International Corporation

ARMCO

WRITE FOR THIS FREE

16 PAGE BOOK...



This 16 page illustrated booklet describes the major activities of The Harshaw Chemical Co. It lists manufactured items and offers booklets which furnish more specific information about these Harshaw products.

THE HARSHAW CHEMICAL COMPANY
1945 East 97th Street, Cleveland 6, Ohio

Send me a copy of your booklet
"Harshaw Chemicals for Industry and Laboratory"

MY NAME _____ (Please Print)

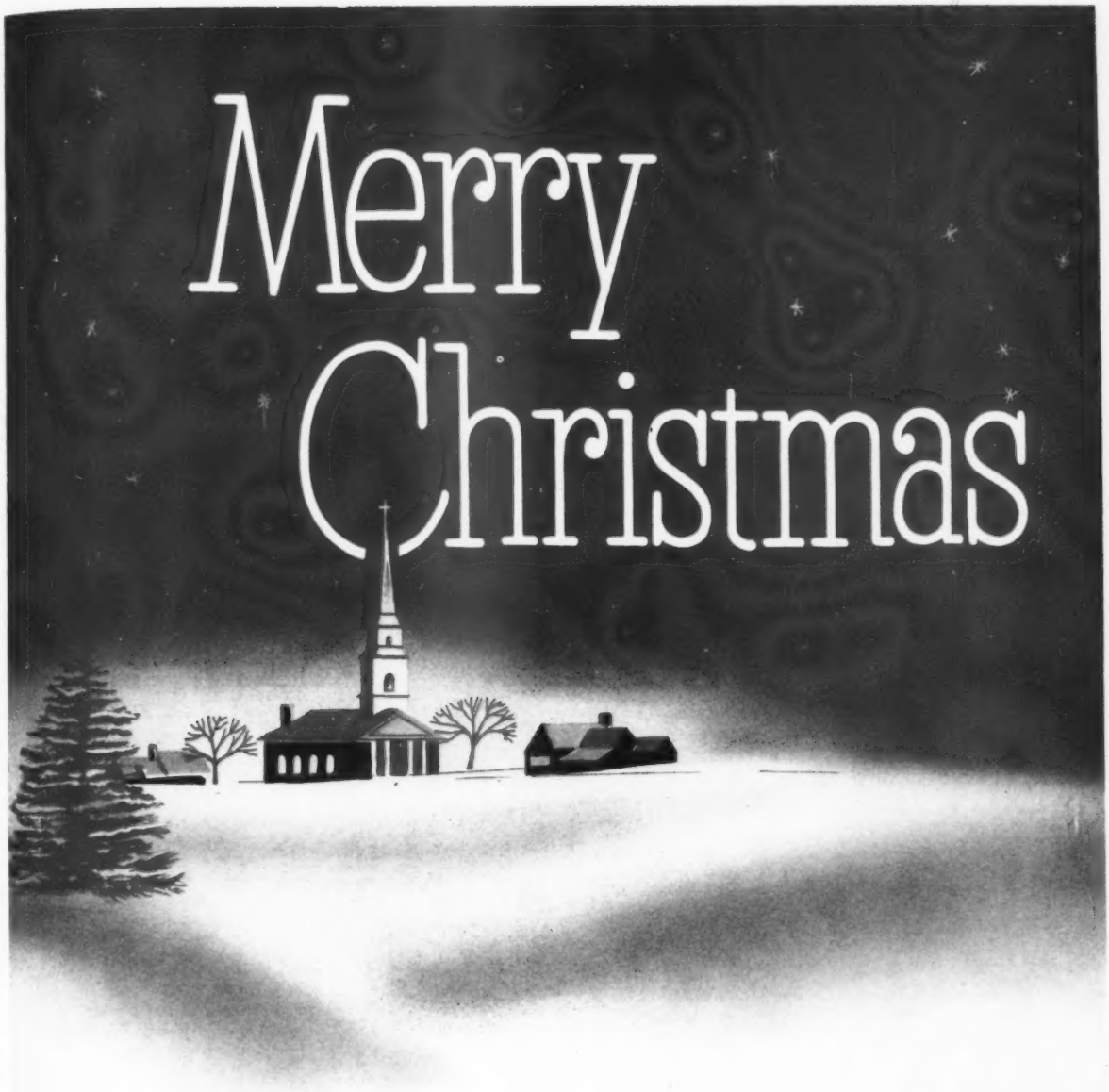
CO. NAME _____

STREET ADDRESS _____

CITY _____ ZONE _____ STATE _____

THE *Harshaw* CHEMICAL COMPANY
CLEVELAND 6 OHIO

contents in front



from the

McDANEL organization

McDANEL REFRACTORY PORCELAIN CO.
Beaver Falls, Penna.

A-B Stoves Division ★ Aetna Porcelain Enameling Co. ★ Altorfer Bros. Co. ★ Aluminum Products Co. ★ American Hair & Felt Co. ★ American Stove Company ★ Art Institute of Chicago ★ Atlantic Chemical Company ★ Atlas Forgings Co. ★ Benjamin Electric Mfg. Co. ★ Blume Porcelain Enameling Co. ★ Bowes Electrical Ceramic Corp. ★ Burton Auto Springs Corp. ★ Central Die Casting Co. ★ Century Vitreous Enamel Co. ★ Ceramic Artcraft Studios ★ Chambers Corporation ★ Chicago Metal Ware Co. ★ Chicago Pottery Co. ★ Chicago Vitreous Enamel Product Co. ★ Clay Arts Association ★ Clyde Porcelain Steel Corp. ★ Cole Hot Blast Mfg. Co. ★ Cribben and Sexton Company ★ Croname, Inc. ★ Crown Stove Works ★ J. A. Dedouch Co. ★ Dekalb Enameling Company ★ Durkee Foods, Inc. ★ Dwyer Products Corporation ★ Dwyer Production Corporation ★ O. Eidinger Mfg. Co. ★ Electromaster, Inc. ★ Fansteel Metallurgical Corp. ★ Federal Enterprises, Inc. ★ Fisher Furnace Co. ★ E. A. Furkert Co. ★ Gas Appliance Service, Inc. ★ General Porcelain Enamel & Mfg. Co. ★ Gits Bros. Mfg. Co. ★ Globe-Union, Inc. ★ Graceland Cemetery ★ Grahn White Metal Casting Co. ★ Great Lakes Carbon Corp. ★ J. F. Helmold Bros., Inc. ★ Hemp & Company ★ Horton Manufacturing Co. ★ Hotpoint, Inc. ★ Illinois Porcelain Enameling Co. ★ Ingersoll Steel Division ★ Ingram-Richardson Mfg. Co. ★ Infilco, Inc. ★ Inland Metals Refining Co. ★ International Engineering, Inc. ★ International Harvester Company ★ Interstate Smelting & Refining Co., Inc. ★ Jernberg Forging Co. ★ Jet Combustion Company, Inc. ★ Kohl Pottery Products ★ Lake Calumet Smelting Co. ★ Landers, Frary & Clark ★ Lawndale Enameling Co. ★ Lectrohm, Inc. ★ Leslie Mfg. Co. ★ Lindberg Engineering Co. ★ Lithgow Corp. ★ Loeb Equipment Co. ★ McCray Refrigerator Co. ★ Maremont Automotive Products, Inc. ★ Midwest Mfg. Co. ★ Midwest Pottery Co. ★ Mojonnier Bros. Co. ★ Mechanical Handling Systems, Inc. ★ Mullanphy Tannery ★ Murray Corporation ★ Oak Ridge Cemetery Corp. ★ Ohmite Mfg. Co. ★ Paint Craft Company ★ Pearson Steel Treating Co. ★ Perkins Dryer Company, Inc. ★ Philco Corporation ★ Pidgeon Vitrefied China Co. ★ Porcelain Enamel Finishers ★ Prentiss-Wabers Products Co. ★ Pressed Steel Car Co., Inc. ★ Quadrangle Mfg. Co. ★ Renown Stove Company ★ Resistors, Inc. ★ Richmond Radiator Co. ★ Rutenber Electric Company ★ M. F. H. Schultz, Inc. ★ M. Seligman & Co. ★ Servel, Inc. ★ A. O. Smith Corp. ★ Standard Lime & Stone Company ★ Tantalum Defense Corp. ★ Tile Craft Corp. ★ Tuthill Spring Co. ★ Universal Forge Co. ★ The Wayne Pump Co. ★ Weber Costello Co. ★ Webster-Chicago Corp. ★ Western Electric Company ★ Western Metal Co. ★ L. A. Young Spring & Wire Corp.

★ **THESE ARE NAMES OF COMPANIES WHICH NO LONGER WORRY ABOUT**

MASONRY PROBLEMS

SINCE THEY BECAME HUYCK CUSTOMERS . . .

Whatever you need in **Engineered Firebrick Masonry,** you can be sure of the same complete satisfaction in the finished work as these companies have had . . if you **call in HUYCK.** Perhaps the best assurance of how well HUYCK handles a job is the number of these firms who **call in HUYCK** time and again for new or maintenance work.

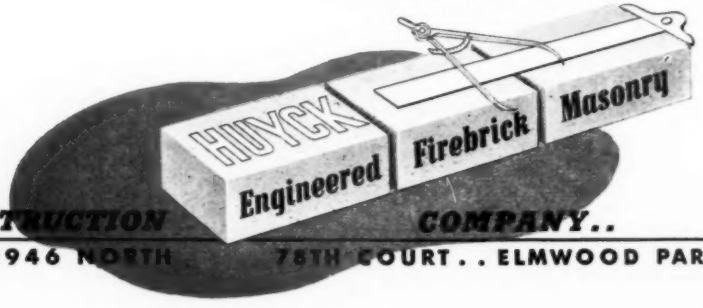
If you want your furnaces or smelters built or rebuilt for long, dependable service, let us add your name to this distinguished roster. Our services are available anywhere in the United States . . **and jobs are completed on schedule, if you call in HUYCK!**

★ **HUYCK BUILDS, REBUILDS, REPAIRS ALL TYPES OF:**

Enameling Furnaces — Box or Continuous . . Frit Smelters . . Aluminum, Brass, Lead Smelters . . Forge Furnaces . . Heat Treating Furnaces — Annealing or Normalizing . . Continuous — Pusher — Gravity Feed — Screw Feed — Small Manual Feed — and all other types.

HUYCK handles large jobs and small ones with equal efficiency. 25 years of specialized experience, expert workmanship, and the use of top quality materials assure best results. *ALL HUYCK work is guaranteed.*

★ *PHONE OR WRITE TODAY!*



Huyck CONSTRUCTION COMPANY..

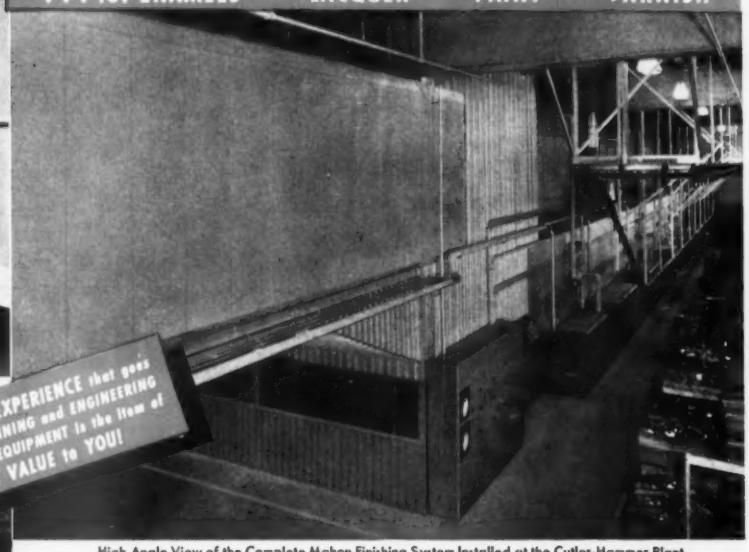
2946 NORTH 78TH COURT . . ELMWOOD PARK 35, ILLINOIS

COMPLETE *Finishing* SYSTEMS

. . . for ENAMELS • LACQUER • PAINT • VARNISH



Mahon Flow Coating Machine—Part of the Complete Mahon Finishing System at Cutler-Hammer.

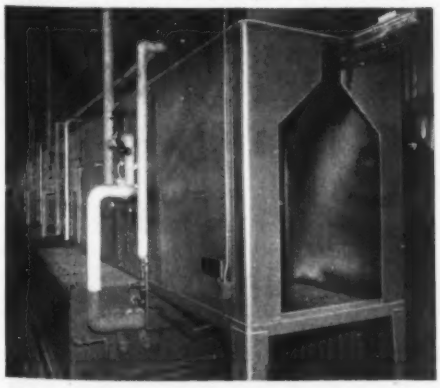


. . . the EXPERIENCE that goes into the PLANNING and ENGINEERING of MAHON EQUIPMENT is the item of GREATEST VALUE to YOU!

High Angle View of the Complete Mahon Finishing System Installed at the Cutler-Hammer Plant, Milwaukee, Wis. Note Overhead Drying and Baking Ovens, and Enclosed Paint Room Below.



Mahon Hydro-Filter Spray Booths, and at left, Drip Tunnel of Flow Coater—Parts of the complete system at Cutler-Hammer.



Mahon Six-Stage Metal Cleaning and Rust Proofing Machine —Part of the Complete Mahon System at Cutler-Hammer.

Modern Mahon System Gives Cutler-Hammer Products FINER FINISH at LOWER COST!

The new, Modern Finishing System installed by Mahon in the Cutler-Hammer plant is very compact with an enclosed paint room fitted with plate glass windows. Drying and Baking Ovens are located overhead to conserve floor space. Provisions are made for both spraying and flow coating in order that finishing costs per unit could be reduced to an absolute minimum. This is another example of Mahon cooperation in planning, engineering and producing highly efficient, properly coordinated equipment to meet the manufacturer's specific requirements. If you are contemplating new finishing equipment, you will find that Mahon engineers are better qualified to determine your equipment requirements, and to do the all-important planning which is the key to high quality results in production finishing. Over thirty years of experience in this highly specialized field has endowed Mahon engineers with a wealth of technical knowledge and practical know-how not available to you elsewhere. In the automotive field and the home appliance field, where fine finish is imperative, you will find more Mahon Finishing Systems than all other types combined. See Sweet's Plant Engineering File for complete information, or write for new Catalog No. A-653.

THE R. C. MAHON COMPANY

HOME OFFICE and PLANT, Detroit 34, Mich. • WESTERN SALES DIVISION, Chicago 4, Ill.

Engineers and Manufacturers of Complete Finishing Systems — including Metal Cleaning and Pickling Equipment, Metal Cleaning and Rust Proofing Equipment, Hydro-Filter Spray Booths, Filtered Air Supply Systems, and Drying and Baking Ovens; Core Ovens, Heat Treating and Quenching Equipment for Aluminum and Magnesium, Dust Collectors and other units of Special Production Equipment.

MAHON

can porcelain enamel help you sell more WASHERS?

Here's a *proved selling feature* that costs you relatively nothing. In these days of soft markets and hard competition for the consumer dollar, porcelain enamel's universal acceptance in the American home, may offer you unusual sales opportunities.

Mrs. Homemaker (and her husband, too) knows porcelain enamel for what it is . . . a *lifetime* finish. They know it to be enduringly beautiful; alkali, heat and corrosion resistant; completely sanitary; easy to clean . . . in short, *the quality finish.*

What they don't know is that while other production costs have climbed steadily, porcelain enamel today costs little, if any more than it did twelve years ago. And you can use lighter-gauge, lower-cost steels because today's porcelain enamel coatings are thinner, lighter in weight, fired at lower temperatures. What's more, they're tougher, too . . . *and how you can demonstrate this on the selling floor!*

You will soon see porcelain enamel on more and more appliances, used in more and more ways by industry. Why not stop now, and consider how this *economical, quality finish* can add new sales appeal to your own products?

Our research and product development services are at your disposal.



● **P-E Coated Agitator**
Cannot stain or harm even the finest linens. P-E lined tub, provides complete sanitary protection for whole washer interior.


● Gleaming, Smooth P-E Tub and Cover
Permanently sanitary and immune to strong soaps and detergents. Surfaces (interior and exterior) never scratched by buttons or metal on clothing. Won't stain or corrode.
● Beautiful P-E Exterior
Armor protection for life against rough handling—scratches—stains. New thinner coats offer maximum resistance to chipping. Permanently sparkling white and easy to clean.
FERRO
Porcelain Enamel Division
FERRO CORPORATION
4150 EAST 56th STREET • CLEVELAND 5, OHIO



Why ceramic finishers choose this gun for production finishing

Every year, more and more ceramic and organic finishers choose the Binks Model 18V Spray Gun over other guns...and for these very good reasons:



Tungsten-Carbide inserts lengthen gun life

The needle valve and material nozzle of the Binks Model 18V are fitted with tungsten carbide inserts. This material is the hardest substance known with the exception of the diamond. It stands up well under the abrasive action of frit...keeps spray pattern uniform...multiplies the life of the spray gun many times.



The gun body is a tough aluminum forging

The gun body of the Model 18V is drop-forged aluminum attractively finished with a long-life black electrolytic coating. This gun can "take it." It stands up under hard, continuous production-line operation. Being mostly aluminum, the gun is light and easy to handle.



Large air passages for low pressure drop

The air passages in the Model 18V are large and smooth. Internal air friction is reduced. That's why the pressure drop between the hose connection and the nozzle is less than half that of other guns.



Precision manufacture assures finer finishes

Model 18V produces outstanding finishes because it is a precision instrument. It is the finest gun Binks has made in 50 years of supplying leading manufacturers with spray finishing equipment. Check it any way you wish and see for yourself why the Model 18V is a growing favorite with ceramic and organic finishers everywhere.



Send for Catalog-Data Book No. 955

You'll find it a handy, and informative guide to the Model 18V and to all other Binks equipment that helps ceramic and organic finishers cut costs, increase finishing production. No obligation. For your copy write: Binks Manufacturing Co., 3122-40 Carroll Ave., Chicago 12, Ill.

Binks
EVERYTHING FOR CERAMIC FINISHING


spray guns with tungsten-carbide inserts


spray booths with staggered baffle plates


material tanks with stainless liners, agitator, fittings


oil and water extractors, hose and connections

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY



finish SUGGESTION BOX

Coated abrasives grind sheets to exact thickness

by Dirck Olton • PRODUCT ENGINEERING DEPARTMENT, BEHR-MANNING CORP.

A SURFACE grinder, called the Micro-Grinder, is being manufactured for facing wide web sheets of metal, leather, plastic, felt, cork, or rubber maintaining a thickness tolerance of ±0.0005 in. on the finished stock. The machine produces this degree of accuracy through the use of a coated abrasive cover, spiral wound on a cast iron back-up roll. Machine widths range from 12 to 80 in. but widths of 40 to 52 in. are standard.

Accuracy of the finish-ground web depends on the hardness of the material to be ground and the amount of the stock to be removed. On relatively soft non-metallics, 0.0625 ± 0.0005 in. of stock can be removed in one place through the grinder. Extremely hard non-metallics, such as mica and laminated phenolic, have been given a 0.030 ± 0.0005 cut at one pass.

The coated abrasive cover is spirally wound around a centrifugally-cast normalized cast iron drum that is machined to a tolerance of ±0.0005 in. The edges of the coated abrasive cover do not overlap, but are butted together. The mounting technique for the drum cover permits utilization of the entire drum periphery.



The cover is secured by a series of clamps that fasten to movable heads on each drum end. These movable heads exert tension on the coated abrasive drum cover outwardly and in the direction of the spiral.

Either an oscillating or non-oscillating type drum can be used on the grinder. However, a more uniform finish is generated by the oscillating drum, and the life of the coated abrasive is longer than on the non-oscillating drum. The grinding drum is completely enclosed, and an exhaust duct built into the hood removes the swarf generated by grinding.

The web stock to be ground is fed into grinding area by a series of rubber-covered pinch rolls. Mounted directly under the grinding roll is a precision ground steel billy roll that supports the stock as it is being ground.

This billy roll is accurately adjusted vertically by two handwheels positioned on the operator's side of the machine. Either handwheel will actuate the worms and gears that move the billy roll up to the grinding drum. Moving either handwheel a full revolution will raise or lower the billy roll 0.005 in. A powered elevating mechanism with limit switches can be installed as optional equipment. A dial indicator, graduated in thousandths of an inch is set on the feed table to provide a visual means of adjusting the cut.

For making adjustments that are finer than can be made with the dial indicator, graduated collars on the handwheels are marked in increments of 0.001 in.

The billy roll is ground in the machine in order that it will be round and parallel to the grinding drum.

For further information on this new surface grinder, write directly to finish.

AMERICAN CHEMICAL PAINT COMPANY
AMBLER PENNA.

Technical Service Data Sheet
Subject: PROTECTING ALUMINUM WITH ALODINE®

"ALODINE" No. 100

"Alodine" No. 100 forms an amorphous phosphate surface on aluminum which is thin, tough, durable, non-metallic, continuous with and a part of the basis metal. The "Alodine" film anchors paint, prolongs paint life, and protects aluminum exposed unpainted to the atmosphere.

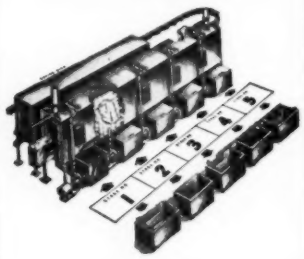
With the "Alodine" No. 100 bath at its normal temperature of 120° F., coating time by immersion approximates 1½ minutes—and by spraying, 15 to 20 seconds. Coating times and bath temperatures can be varied to suit operating conditions.

"ALODINE" No. 600

"Alodine" No. 600 forms corrosion-resistant coatings that provide excellent protection for unpainted aluminum and also make an effective paint-base. This grade is recommended for use in place of "Alodine" No. 100 on aluminum parts that are to remain unpainted or to be only partly painted; and on *all* aluminum castings and forgings whether or not these are given a paint finish.

"ALODINE" FLOW SHEETS

MULTI-STAGE POWER WASHER FOR SPRAY ALODIZING



IMMERSION TANKS FOR DIP ALODIZING

PROCESS SEQUENCE

1. Clean 2. Rinse 3. "Alodine" 4. Rinse 5. Final Rinse

NOTE: Equipment can be of mild steel throughout, except the "Alodine" stage which must be of acid-resistant material.

"Alodine" No. 600 is applied at room temperature (70° to 120° F.). Recommended coating times are 3 to 5 minutes for an immersion process and 1 to 1½ minutes for a spray process.

COATING DATA	"ALODINE" NO. 100	"ALODINE" NO. 600
COMPOSITION	Amorphous phosphate.	Amorphous mixture of metal oxides and chromates.
COLOR	Depending on alloy treated, color range is from an iridescent blue-green to a dark slate grey.	Depending on time of treatment, color range is from golden iridescent to light brown.
THICKNESS	From 0.01 to 0.08 mil. No appreciable dimensional changes occur when aluminum is Alodized.	From 0.005 to 0.01 mil. No appreciable dimensional changes occur when aluminum is Alodized.
WEIGHT	50 to 300 mgs. per square foot. Optimum: 100 to 200 mgs. per square foot.	35 to 50 mgs. per square foot.
SOLUBILITY	Insoluble in water, alcohol, solvents, etc. Insoluble in most dilute acids and alkalis. However, strong acids and alkalis which attack aluminum may penetrate the "Alodine" film and react with the underlying metal. Slightly soluble in concentrated nitric acid. Soluble in molten sodium nitrate, etc.	Insoluble in alcohol, water, solvents, etc. Soluble in strong alkalis and acids.
ELECTRICAL PROPERTIES	High dielectrical resistance.	This coating is electrically conductive. Aluminum coated with "Alodine" No. 600 can be shielded-arc welded or spot welded.
HEAT STABILITY	Unimpaired at temperatures that melt aluminum.	Unimpaired at temperatures that melt aluminum
FLEXIBILITY	Integral with and as flexible as the aluminum itself. Can withstand moderate draws.	Integral with and as flexible as the aluminum itself. Can withstand moderate draws.
ABRASION RESISTANCE	Approximately 90% of that provided by chromic acid anodized aluminum.	Approximately 90% of that provided by chromic acid anodized aluminum.
CORROSION RESISTANCE	Painted—superior to chromic acid anodizing. Unpainted—comparable with chromic acid anodizing. Meets MIL-C-5541 and other Government Finish Specifications.	Exceeds requirements of MIL-C-5541 and even AN-QQ-A-696a (anodic films)
PAINT-BONDING	Excellent. Equal to or superior to anodizing. Meets MIL-C-5541 and other Government Finish Specifications.	Excellent. Meets MIL-C-5541 and other Government Finish Specifications.
TOXICITY	Non-toxic.	Non-toxic.
BIMETALLIC CORROSION RESISTANCE	Shows good resistance against bimetallic or galvanic corrosion.	Shows good resistance against bimetallic or galvanic corrosion.

CHEMICALS ACP PROCESSES

WRITE FOR FURTHER INFORMATION ON "ALODINE" AND ON YOUR OWN ALUMINUM PROTECTION PROBLEMS.

CHEMICALS ACP PROCESSES

MEETINGS

COOKING, HEATING INSTITUTE

Institute of Cooking and Heating Appliance Manufacturers, winter meeting, Cincinnati, December 1-2.

STEEL KITCHEN ASSN.

Steel Kitchen Cabinet Manufacturers Association, annual meeting, Cleveland, December 3.

HOME LAUNDRY MFRS. ASSN.

American Home Laundry Manufacturers Association, annual meeting, Chicago, January 3.

HOMEFURNISHINGS MARKET

International Winter Homefurnishings Market, Chicago, January 5-16.

ENEMELERS CLUBS

Midwest Enamelers Club, Chicago, January 10.

Central District Enamelers Club, Cleveland, February 6.

HEATING, VENTILATING SHOW

International Heating and Ventilating Exposition, Chicago, January 26-30, in conjunction with annual meeting of American Society of Heating and Ventilating Engineers.

PLANT MAINTENANCE SHOW

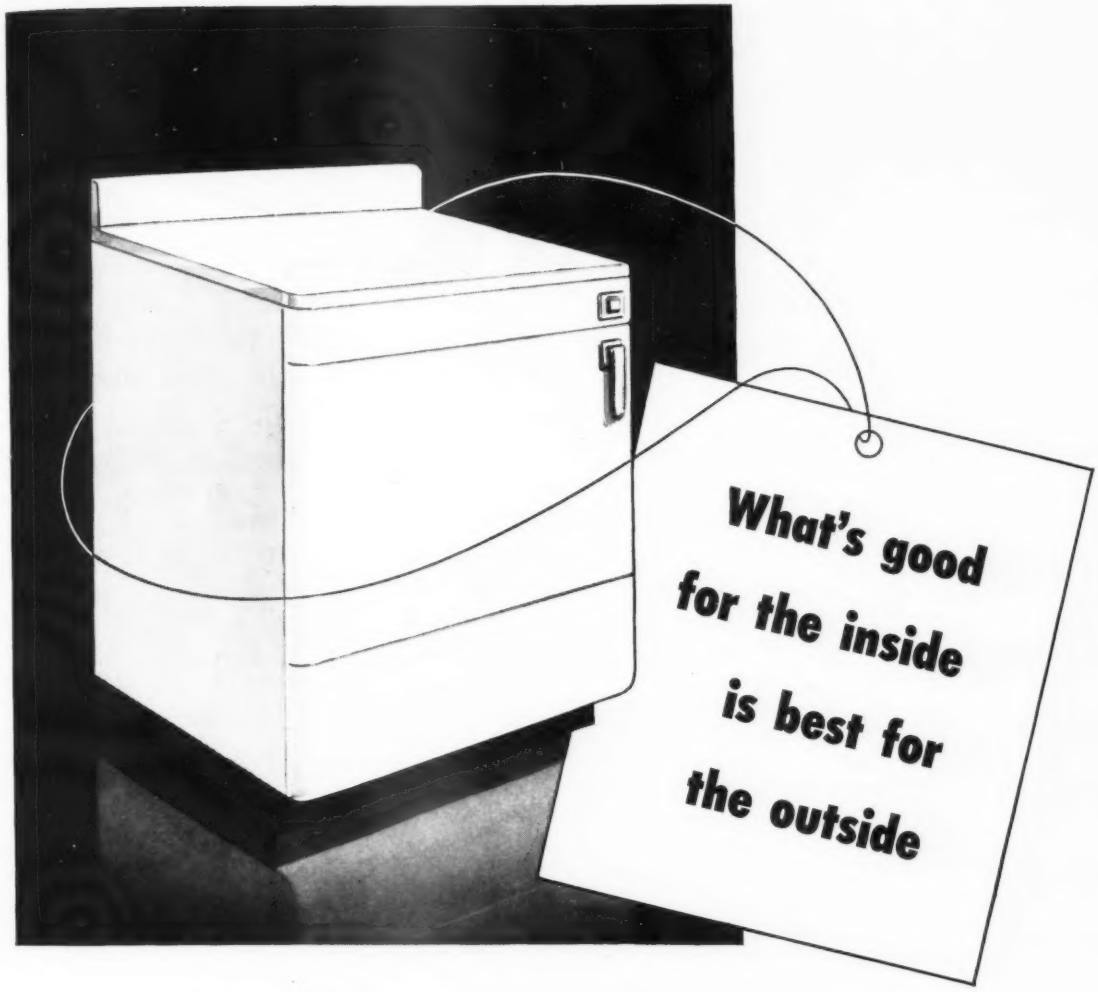
Plant Maintenance Show and Conference, Public Auditorium, Cleveland, January 19-22.

ELECTRIC SIGN CONVENTION

National Electric Sign Association, annual convention, Dallas, Texas, February 9-11.

STAMPERS TECHNICAL MEETING

Pressed Metal Institute, spring technical symposium, Cleveland, March 18-20.



Use U·S·S Vitrenamel– the finest enameling base

● Here's one of the housewife's latest favorites among labor-saving kitchen appliances. And she'll appreciate it even more if her dishwasher has the same good-looking, easy-to-clean, durable finish as her kitchen range.

That finish is porcelain-enameled steel. It's used for the interior of most appliances like this. The outside deserves the same kind of lasting protection as well.

For porcelain-enameled surfaces, manufacturers have found U·S·S Vitrenamel the ideal base material. Maximum adhesion between steel and coating is promoted by the special surface texture of this fine enameling sheet.

To assure housewives a permanently beautiful and durable surface on the exterior of her appliances, make use of the U·S·S Vitrenamel label on your products.

U·S·S VITRENAMEL

UNITED STATES STEEL COMPANY, PITTSBURGH · COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
2-924 TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA., SOUTHERN DISTRIBUTORS · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

UNITED STATES STEEL

High Acceptability for . . .

PERMA-VIEW

Says – GURNEY PRODUCTS

Gurney Products, Inc., Toronto, Canada—Says: "The Gurney Deluxe Gas Ranges with the Perma-View Oven Door Window have been received with a high degree of acceptability in Canada."







Here's Why . . .



Perma-View lends salable beauty to your product. All that meets the eye is crystal clear tempered glass and gleaming chrome trim—no unsightly sealing strips are visible —yet—Perma-View is perfectly sealed so that the crystal clear visibility is retained—*Year after Year*.

Perma-View comes to you ready to assemble into *your* oven door—"Out of our carton into your oven door"—lending time-saving and space-saving economy on your assembly line.

Perma-View is made in sizes to suit your door—aesthetically correct—Perma-View engineers will gladly assist you in selecting the proper window for your oven door. Just write or phone —Perma-View will be on the job immediately with the kind of product and service you have hoped for.

MILLS PRODUCTS, INCORPORATED

(formerly Mills Engineering Co.)

1015 W. MAPLE ROAD • WALLED LAKE, MICHIGAN

THE finish spotlight



The new Broilking rotisserie-broiler brings the barbecue indoors. Large enough to handle a 10-pound roast or large roasting chicken, this new appliance barbecues, broils, roasts, grills, and toasts. Smoke-free, there's a flip-out glass front to eliminate spatter. Constructed of triple chrome plated steel, the handle, heating unit and porcelain enamel liner are removable for easy cleaning. It is being marketed by International Appliance Corporation.

For PURE Water

INDUSTRIAL
WATER DEMINERALIZERS



Mill Room Water
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Neutralizer Solutions

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RUBBER DIVISION Vulcanized Linings • Molded Products · WATER DEMINERALIZERS



from the Editor's Mail

hazards encountered by packages when shipped by railroad

Gentlemen:

We would like very much to receive 10 copies of the following article: "S.G. Guins. Hazards encountered by packages when shipped by railroad. *finish*, v. 9, 31, November, 1952, pp. ST-5.

If there is a charge for reprints or tear sheets, we should be glad to honor your bill.

Evelyn E. Sabol
Librarian
Air Reduction Company
New York, New York

---

air-inflated grinders

Gentlemen:

I read with interest your article covering air-inflated grinders as illustrated on Page 19 of your November 1952 issue of *finish*.

I would appreciate receiving from you the source of supply where we might be able to obtain further information on these air-inflated grinders.

Daniel R. Scoletti
Production Manager
Palley Mfg. Co.
Pittsburgh, Pa.

the brief article on "Air-Inflated Grinders Cut Polishing Time 50%" has resulted in numerous inquiries indicating current interest in grinding methods.

---

magnetic lifter and feeder

Gentlemen:

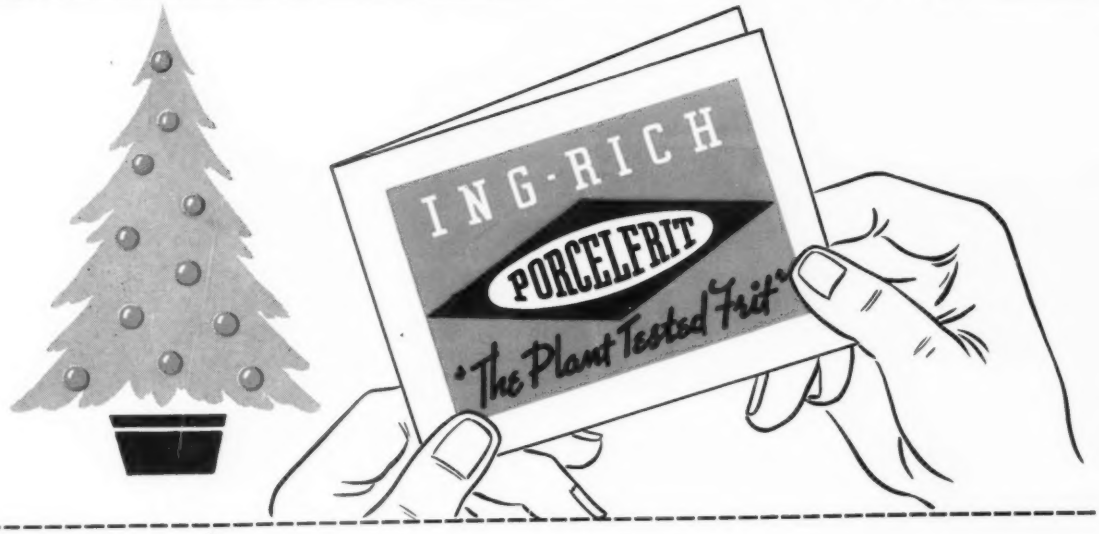
Would you kindly send us additional information on a K-14. "Magnetic Lifter and Feeder" as shown in the November issue of *finish* magazine.

We would also like to take advantage of the trial offer of one of these units.

Charles L. Eigenbauer
Safety Engineer
Heintz Mfg. Co.
Philadelphia. Pa.

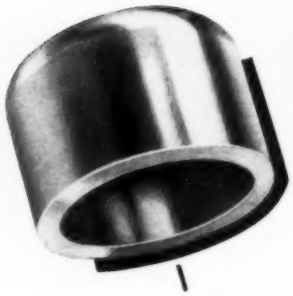
***finish* has shown a number of different types of magnetic units for handling sheet steel, and in each instance they have drawn many inquiries, indicating intense interest in magnetic devices for use in metal products plants.**





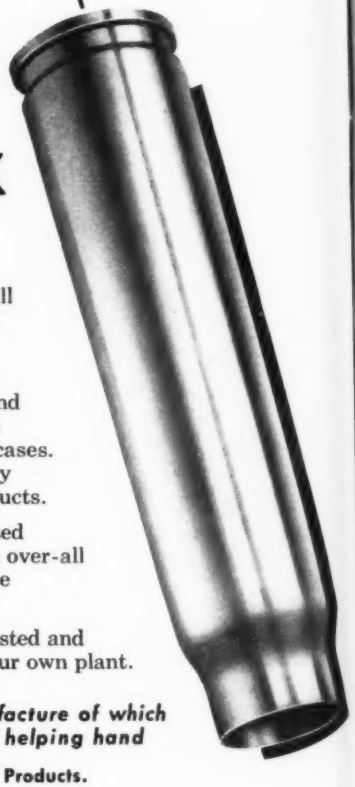


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Mac Draw No. 8 is only one of the many Macco Big 4 Pre-Tested chemical compounds and cutting oils that are today giving such over-all satisfaction in many of the country's leading civilian and defense steel production industries.

When you specify Macco, you know you are getting products tested and proved, under the same actual working conditions existing in your own plant.

†Manufacturer's name and actual case histories of many other satisfied users of Macco Products furnished on request.

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* *Mac Draw No. 8 was used on every operation, including Heading, Trimming, Tapering, Shaving, etc., without extra washing. Comes off clean in hot water.*

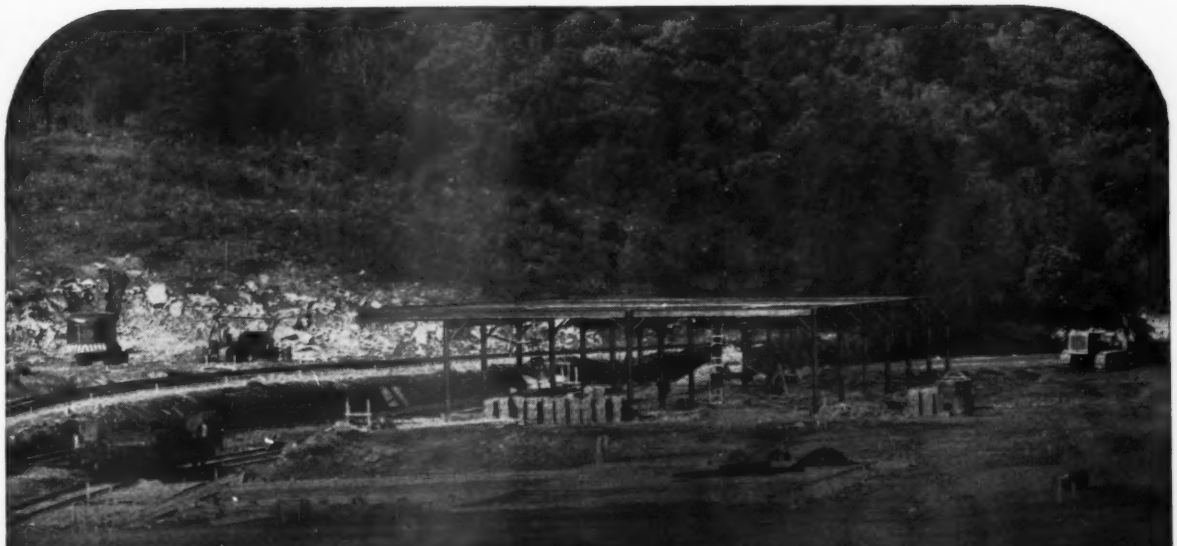
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phase 4:

Foote's new lithium chemical plant

Warehouse and offices under construction at Sunbright, Va.

...the steel will be up

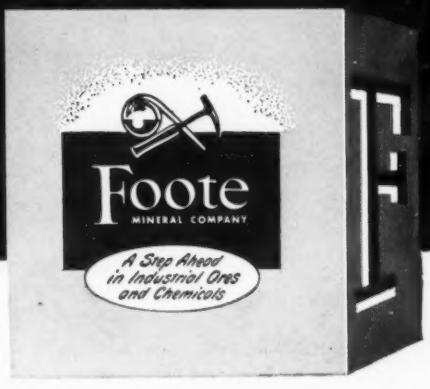
By the time you read this, the shovels will have gone, the foundations will be poured and steel will be up at Foote's new, large lithium chemical plant at Sunbright, Virginia. This is another step in Foote's program to overcome current shortages arising from the unprecedented demand of industry and the government for lithium chemicals.

phase 3 — Pilot plant operations of new lithium process developed by Foote research.

phase 2 — Kings Mountain, N.C. — Mining largest known deposits of spodumene.

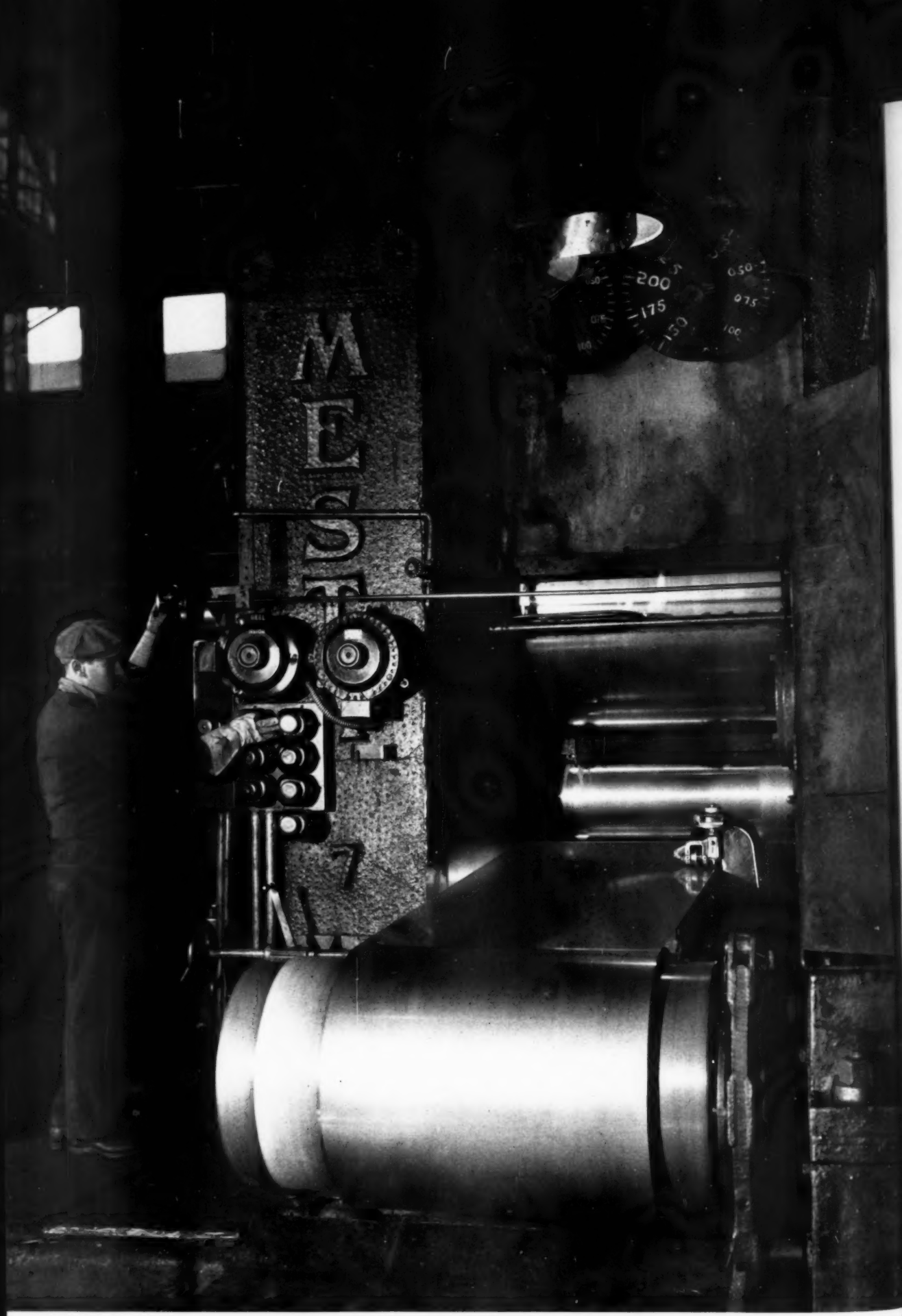
phase 1 — Continuing Foote research . . . finding new and improved uses for lithium chemicals.

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Finishing end of a five-stand cold reduction mill at Inland Steel plant, showing panel of controls and automatic calipers, called the flying micrometer.

Properties of steel for enameling

Part I—including chemical analysis, and an outline of physical properties and finishing characteristics for three types of steels currently used for enameling

by M. B. Gibbs • QUALITY CONTROL DEPT., AND *F. R. Porter,* RESEARCH AND DEVELOPMENT DEPT., INLAND STEEL COMPANY, EAST CHICAGO, INDIANA

THE enameling industry has used practically every type of steel and iron sheet for the past few years in order to keep production moving. This condition still exists and there seems to be small chance of a change for the immediate future. As a matter of fact, it has been about twelve years since a producer of enameled products could obtain enameling iron sheets at will, in other words, since we have had a buyers' market.

Inasmuch as the use of non-enameling sheets has become so widespread and since there are many new faces in the enameling industry, a resumé dealing with the properties of the common ferrous metals, both physical and enameling, should be worthwhile.

Grades available

The types and grades of sheets available to and being used for porcelain enameling, as we would place them in order of increasing desirability as regards enameling properties, are:

Mild steel (low carbon) killed hot rolled, killed cold rolled, rimmed hot rolled, rimmed cold rolled.

Enameling iron, hot rolled, cold rolled—(All enameling iron is of the rimmed type.)

Special irons and steels such as titanium bearing steel.

Inasmuch as practically all sheets used by the enameling industry are either of the fully killed or rimmed type, a short discussion of the main differences of these two types follows.

Some of the undesirable elements are removed from steel by oxidation of the molten metal bath in the open hearth, and during the process some iron oxide (FeO) is dissolved in the steel. This iron oxide will react with carbon in the steel, as long as the temperature is sufficiently high, thus:

$$2FeO + C \longrightarrow 2Fe + CO_2.$$

When such a steel is teemed into a mold, the escaping carbon dioxide gas causes a rolling or boiling of the molten metal. This boiling action sweeps away the impurities from the liquid-solid interface as the metal solidified so that the first metal solidifying is clean sound iron. The impurities are concentrated toward the center of the ingot. The clean solid metal first solidifying is called the rim, the central, more segregated part, the core. The rim thickness of the ingot is normally about 10% to 12% of the ingot thickness, depending mainly upon the freezing rate, ingot dimensions, and other steel making and teeming conditions being unchanged. All enameling iron and most cold rolled sheets are rimmed and have a common property — good surface.

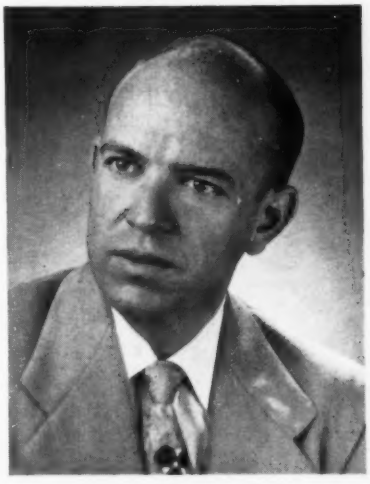
When the iron oxide in the molten steel or iron is "removed" by deoxidizers, such as silicon or alumimum, the oxygen is no longer available for reacting with carbon and there is no appreciable evolution. Such steel lies quietly in the ingot mold and is said to be killed. Sheets rolled from killed steel are more uniform in composition from edge to edge than those from rimmed steel but they are inferior as regards surface.

In addition to some characteristic segregation behavior, we find also some other differences in ingot structures which carry through to the finished product and may affect both drawing and enameling quality. The differences we have in mind are caused by gases which are dissolved

F. R. PORTER



M. B. GIBBS



in the molten metal and those which may be formed by chemical reactions after the metal has been teemed which tend to cause blowholes.

If all gas evolution is prevented by the presence of deoxidizing elements, the steel (killed) is practically free from blowholes and has only a shrinkage cavity at the extreme top of the ingot. This of course assumes that the proper mold shape and size is used.

Figures 1 and 2 show deep-etched sections of shapes from which can be obtained an indication of the extent of rim and core in the case of rimmed mild steel and enameling iron, and the absence of rim in the killed steel. Mild rimmed steel has less rim than does enameling iron because of its more sluggish rimming action in the ingot mold.

Chemical analyses

Typical ladle analyses for rimmed and killed low carbon steels and for enameling iron are contained in Table I.

It should be remembered that due to segregation during solidification, a sheet from any heat may and very likely will differ in composition to some extent from the ladle analysis for the heat. Sheet analyses may vary within themselves. For this reason, the general practice in selecting samples to represent the chemical analysis of a shipment of sheets is a minimum of 3 sheets for lots under 15 tons and 6 for lots over 15 tons. Samples for analyses are taken by drilling entirely through the sheet in a sufficient number of places so that the sample is representative of the entire sheet.

Table I.
Typical Ladle Analyses for Rimmed and Killed Low Carbon Steels and for Enameling Iron

	Carbon	Manganese	Phosphorus	Sulphur	Soluble Aluminum
Rimmed mild steel	.08%	.35%	.015%	.030%	nil
Killed mild steel	.06%	.35%	.010%	.030%	.05%
Enameling iron	.03%	.04%	.010%	.030%	nil

In general, the variation in chemical analyses for sheets from rimmed steels is wider than in those for killed steels.

Physical and enameling properties

Porcelain enameling consists of fusing a glass on a metal base and the majority of enamels today require temperatures of from 1500°F. to 1600°F. for this fusing process, although there is an increasing quantity of 1300°F. enamel being used. To be satisfactory, the glass coating must not only be continuous and defect free, but must adhere tenaciously to the metal base.

During the fusing process, gases are evolved from the metal base, from moisture chemically combined with certain of the glass ingredients and from chemical reactions between constituents of the steel and glass. The composition and quantity of these gases are of importance to the success of the enameling operation. For example, from a small pearlitic area in the surface of the metal can be evolved a sufficient volume of gas to cause a reddish brown *(copper head)* defect in the enamel finish over the area. It is an over-oxidized area, and chemical analysis shows it to be composed largely of iron oxide. The flow of gas or gases has been sufficiently violent during the fusing cycle to force the fluid glass away from the metal and permit the oxidized area to form.

On the other hand, the evolution of gas from the base metal may be less violent, but sufficiently violent and prolonged so as to cause blisters *(boiling)* defects in the enamel finish. Still another example to indicate the rigid requirements for a satisfactory sheet for enameling is that of the rather close limits of the percentage of manganese in sheets for certain specific applications.

Qualities desired in enameling sheets

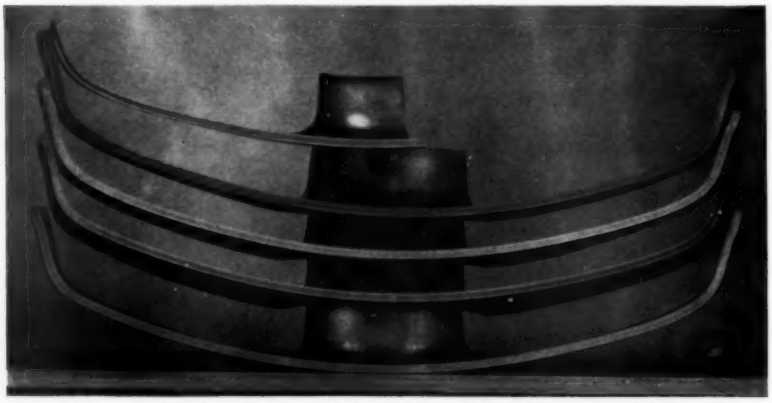
There are three main qualities desired by the industry in sheets for porcelain enameling, viz., suitable drawing qualities to make the part intended, good enameling properties, and high resistance to warping and sagging at enameling temperatures.

Mild steel (rimmed and killed)

Under the mild steel classification falls tin mill black plate (a cold rolled product), used largely by the hollowware industry; cold rolled sheets used by the hollowware and stove industries for particular applications; hot rolled and hot rolled annealed, pickled sheets. It is customary in the trade to specify these sheets dry, i.e. free from the oil used by the mill for protection against corrosion during transit and storage. Some of these oils are difficult to remove in the enameling shop.

Hot rolled annealed sheets, while coming within this classification, are not used for enameling purposes because the likelihood of the loosely-adhering, partially reduced oxide on

Figure 1 — This photo shows parts fabricated from rimmed steel.



the surface of the sheet which is not removed by the normal cleaning and pickling process and will cause difficulty in enameling.

Mild steel sheets are normally used for parts in which warpage or sagging at enameling temperatures can be tolerated, or where the design is such that warping does not occur, and for which the quality of the enamel finish is not the highest. The drawing quality of these sheets is excellent or can be so made when that quality is desired. In fact, the chemical composition of this type is comparable to that of sheets often furnished the automotive trade for deep stampings. It follows, therefore, that the same excellent stamping quality can be obtained by the enameling industry.

The enameling quality of mild steel is inferior to that of the other two types. The relatively high carbon content is mainly responsible for this difference, although manganese adversely affects enameling quality too. The carbon is present as iron carbide, which is highly reactive with iron oxide, hydrogen, etc., at enameling temperatures, one of the reaction products being a gaseous carbon compound which if evolved in sufficient quantity, may result in a defective coating with regard to both appearance and adherence. Hydrogen is undoubtedly one of the most undesirable elements with which the enameler has to contend, and its origins are many — steel making, steel mill processing, enamel shop cleaning and pickling, and chemically combined water in the enamel bisque, being a few of the more common sources.

Killed mild steel is not used generally for enameling purposes. All indications are that its enameling properties are inferior to those of rimmed mild steel. However, it is the base metal for the best deep drawing steels.

The resistance of mild steel to sagging and warping at enameling temperatures is comparatively low. This is due to the fact that the enameling temperatures are above the transformation or critical temperatures for this metal, and, as is generally known,

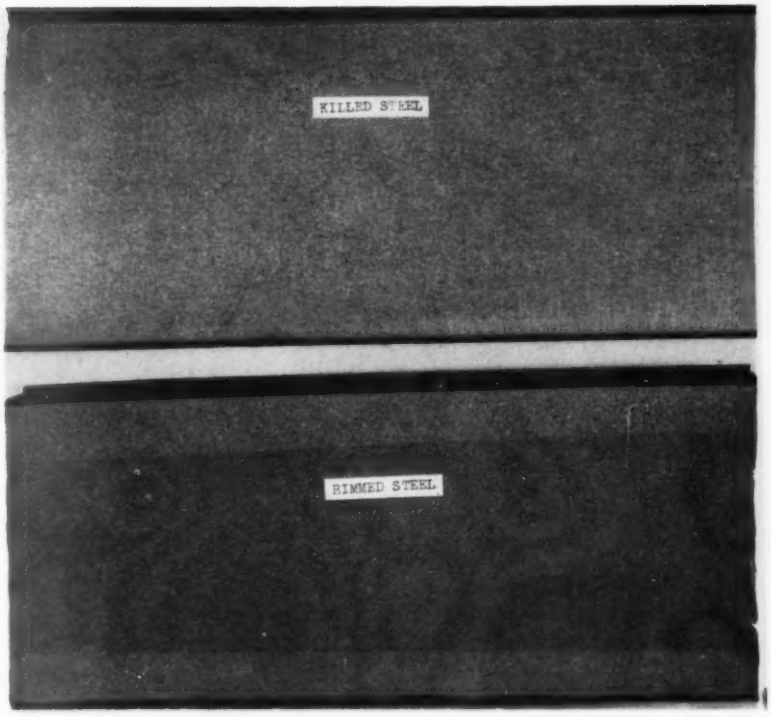


Figure 2 — Slab sections of killed (top) and rimmed (bottom) steels.

there is not only a decided lowering of the tensile strength but also a rather abrupt contraction on heating and an expansion on cooling at these critical temperatures. Mild steel has two of these critical points and both are below or in the enameling temperature range for enamels maturing at 1550°F.

Enameling iron

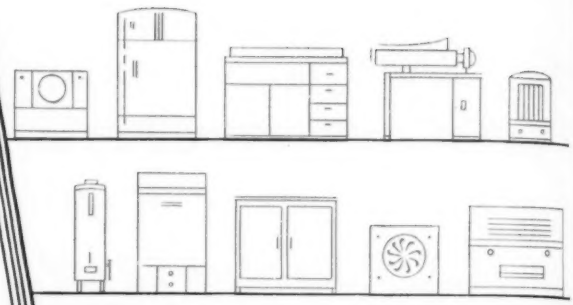
Prior to about 1914, sheets available to the enameling industry were of the mild steel classification. At about that time the American Rolling Mill Company began the production of an ingot iron for this industry, and the chemical analysis of the product approached that of pure iron. The product, as now made by most of the principal steel producers for the enameling industry, is universally known as "enameling iron", although marketed under various trade names. As pointed out, it is a rimmed, low metalloid steel or iron.

Enameling iron is a premium product compared to mild steel. Longer open hearth time is necessary for lowering the carbon, manganese, phosphorus and sulfur content and higher open hearth temperatures are involved since the melting point rises with increasing purity, both of which reduce the life of the open hearth lining. Enameling iron also has a "red short" or "critical working" temperature range, within which the metal is brittle and practically nonworkable. Special hot rolling precautions, therefore, are required for this product. This "red short" range is caused by the low manganese to sulfur ratio in the metal. A minimum ratio of about seven to one is required for eliminating this critical hot working range, and, as can be seen by reference to the analysis shown, the ratio is approximately one to one for enameling iron. It would be highly advantageous to the steel producer to have sufficient manganese present to eliminate this range. However, enameling and sag resisting properties decrease with increase in manganese.

Heat treating (normalizing) enameling iron sheets is also a comparatively expensive operation since it must also be followed by a pickling and scrubbing operation. Much energy has been directed toward less expensive methods but without complete success.

to Page 70 →





8 pages of Ideas

to help your product finish help increase sales

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Fabricating and painting steel partitions

story on production of movable partitions for offices and other enclosures

by Walter Rudolph

Exclusive feature finish

In recent years, "main street" business establishments and industrialists alike have been placing more and more emphasis upon flexibility, mobility and efficiency, along with attractive durability, in partitions for office and other enclosures. Movable steel partitions of many types serve to answer and satisfy the major portion of this need.

Typical of the nationally known firms that have come to the fore in fabricating and finishing steel partitions for the countrywide market is Steel Partitions, Inc., of Jamestown, N.Y. This article deals with some of the most interesting phases of that plant's activity.

Steel Partitions, Inc., organizd in 1935 in the city where, reputedly, the hollow metal industry was born, takes no back seat in respect to thorough experience in metal working processes. In manufacturing movable steel partitions, it has arrived at possibly the simplest type fabrication, yet incorporating more steel, than commonly evident in its field.

Ripple and warp-free panels

Steel partitions in general, to satisfy the consumer, must have structural stamina and rigidity, ripple-and-warp-free panels, and elimination of practically all metal-to-metal sound transmission. This company features the following in this regard (in late type JF flush wall construction):

Types of material used for sound deadening

Horizontal reinforcement members are up to 16 gauge; vertical members, 14 gauge; panel sheets, 20 gauge, stretcher leveled; ⅛-inch thick sound deadening felt panel interliner, and thick inorganic insulation for further sound insulation, as well as temperature containing. Fabrication of this type panel entails no welding, a considerable factor in the overall manufacturing picture.



This punch press is one of several used at the Steel Partitions plant for small wall panel component fabrication.

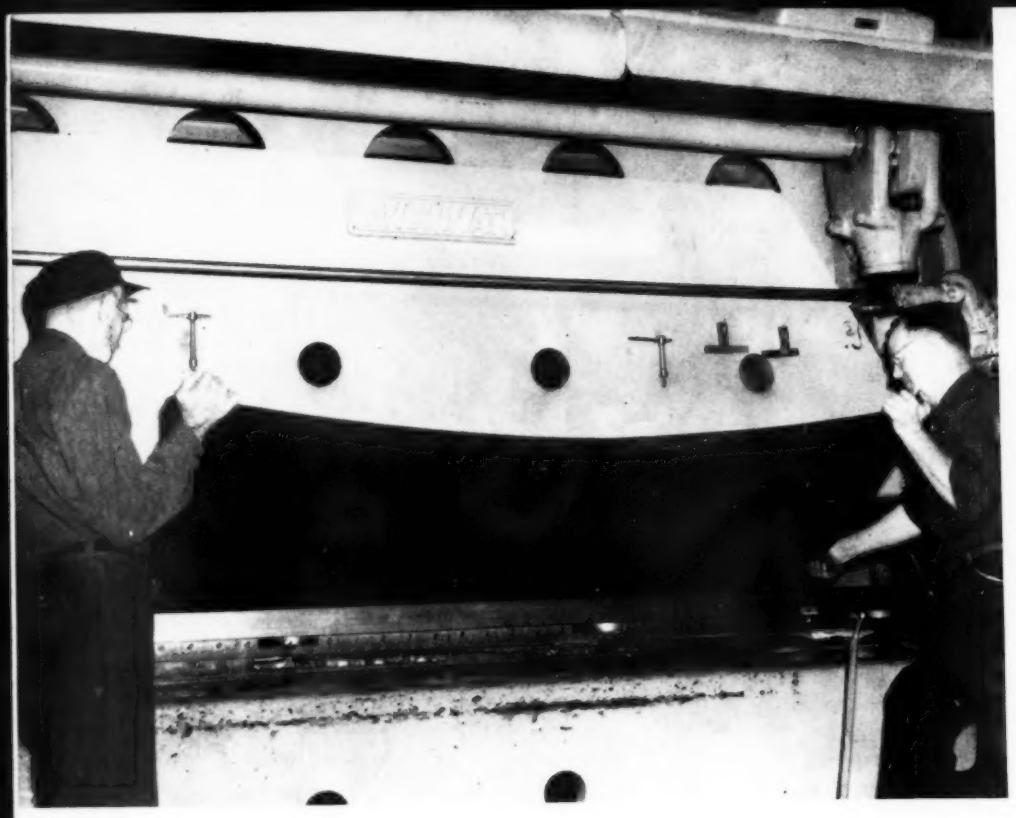


Photo shows the "skin" of a flush wall panel being edge-formed on a 12-foot brake. 20 gauge cold rolled steel is used.

Components of this type panel go directly from modern press and die fabrication to cleaning and painting operations. There is no complicated "in-between" work, adding to cost in labor and time. As there is no welding, there are no weld marks to grind and sand.

Cleaning process

Cleaning (a process to be mechanized soon) is done by manual dipping in a naptha tank. Synthetic baking type primers are used, according to customer specifications, mostly in neutral colors. As orders are largely "scrambled" in shop travel, and vary greatly in quantity, there are no mass production procedures in cleaning and painting.

Spray booths up to 20 feet across are used, and batch-type baking ovens, with pieces traveling about on castered racks. Prime baking may take about 45 minutes, at about 300° F, with heating and automatic controlling done electrically. Second and third coats, per customer requirements, are applied subsequently. Often lacquers are called for, and panels are finished and flash dried.

Roll forming equipment

There are other type Steel Partition walls and accessories or part; one of the most interesting, for our



On a "stroke" sander, as recently termed, door uprights are easily sanded with 80 grit belt over a 10-foot bed.



A welder, 440 volt capacity, spots together pieces for upper sash of glass-and-steel panel; hand-held gauge aligns parts.

readers, being that of fabricating and painting doors. Roll-forming equipment is used extensively to make moldings and other parts, in this connection. Coiled steel serves handily in such fabrication. Various small brackets and joining pieces are processed by punch presses.

Spot welding

Batteries of spot welders then join components — channels, vertical members, pilaster braces, etc. — which move in job lots to assembly areas. Precision plays an important part, in the final stages especially, and heavy steel-framed jigs are used to "lay up" a complete door. Heavy grinding wheels, floor-mounted, stand near such jib tables. As the pieces are tried in assembly, mitered joints are ground to fit, as needed.

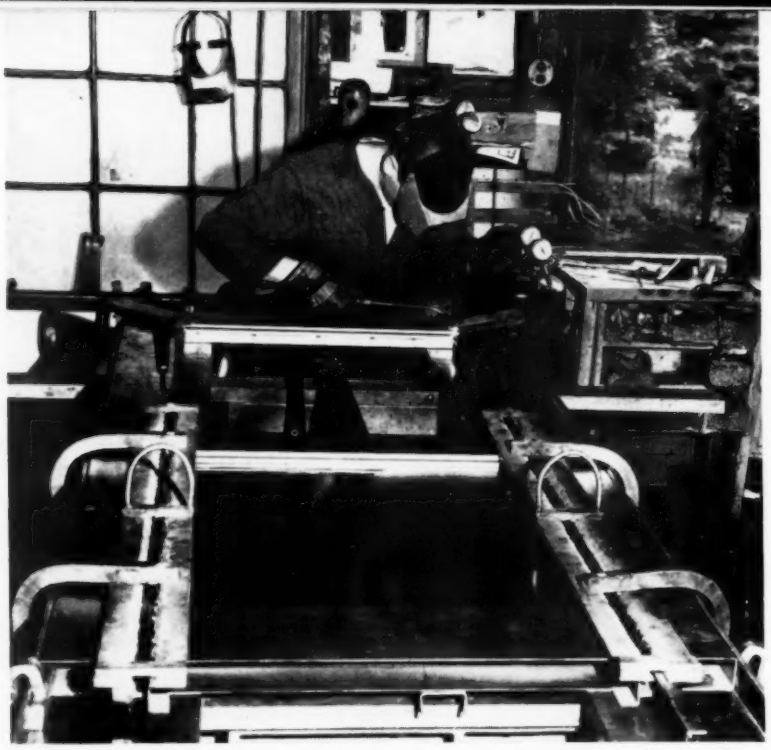
Pieces are then "laid up" from the jig, in order, for gas welders in turn to assemble in their welding tables of same dimensions. After welding, fillets are rough ground with portable tools, and finish ground before cleaning.

Painting doors

Painting of doors is vastly more specialized. Highly skilled workers use a "Swedish" putty in a filler going over the structure to perfect a surface that does not reveal it has



Synthetic enamel is sprayed on for first finish coat. Man in foreground blows off and tack rags surface. Note skids.



Door is assembled after fitting in steel jig, similar to jig used for gas welding of mitered joints and other seams.

been welded and ground. After filling, the prime is applied and baked — this may take three to seven hours, gradually increasing temperatures to 250° F. to dissipate moisture — and the door is gone over with air-powered sanders, roughing out pin holes and blemishes.

Dust if blown off, and refilling is done, using an air-drying filler liquid. When this fill dries, a light sanding is done (about 120 to 220 grit). The door is then blown and wiped before final enameling, one or two coats, as stipulated.

Special "skids" for doors

Doors are handled in an interesting manner. Upon entering the paint department, bottom and top are "touched up" (where paint won't reach), and "skids" are fastened by bolts screwed into tapped holes. Then the door may rest on the floor, top or bottom, and be pushed about that way also.

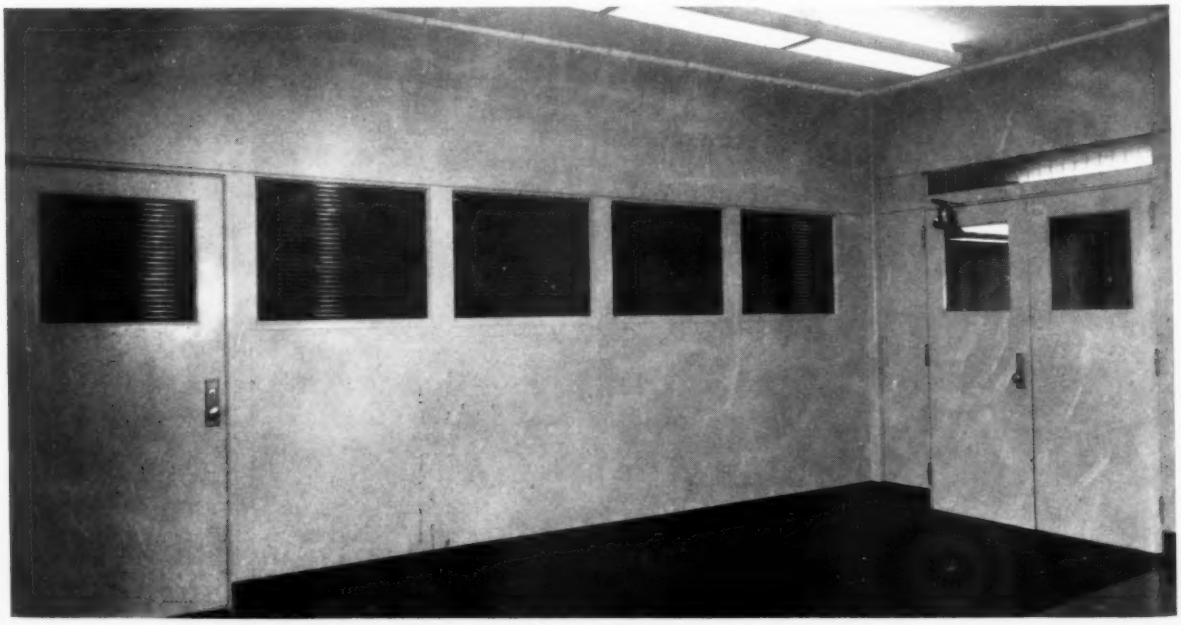
Meticulous care is taken through all steel partition finishing, as the consumer wants a surface that compares with the finest furniture — and much office and industrial furniture today is just that. Double-coated panels get light sanding between coats, with blow off and tack rag wiping before final spraying.

"Smoke screen" panels localize smoke hazards

We might comment on another type of steel partition which has attained popularity and importance, and which entails much the same fabricating and finishing skill as the above products. This is the "smoke screen" corridor and stair well type paneling or enclosures that remove a great menace to safety of occupants of public and institutional buildings.

This type of paneling or partitioning effectively localizes smoke hazards and facilitates orderly personnel evacuation. Usually it includes large areas of glass. Side lights and transoms are popular in "smoke screen" installations.

Flush-type steel partitions are shown in a typical installation—part of a trend in commercial and industrial establishments desiring flexibility in layout.





Christmas is for children!

It's the day when everything is bigger, better and more beautiful than they ever dreamed it could be. Christmas is for children . . . yet we all share in the excitement, the joyousness, the good fellowship that's in the air.

Let's hold on to that Christmas spirit. For when we have more friendliness and more genuine admiration among men and among the nations of the world . . . we will have peace —a peace that will endure.

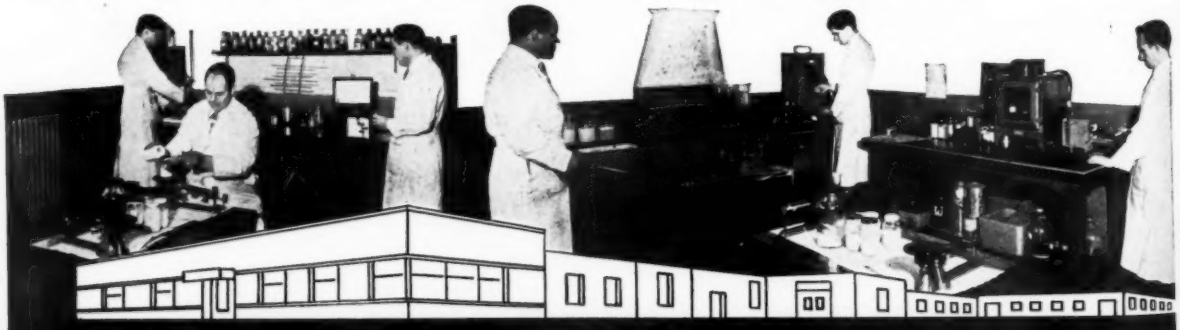
PEMCO CORPORATION



. . . on our Twentieth ANNIVERSARY

we wish you a Very Merry Christmas

Since our birthday, December 7, 1932—as much has happened as in twenty centuries before—it has been an era of great glory, great tragedy and of our greatest industrial and economic expansion . . . . . In our field NORTHWEST has built a very substantial and loyal following because we have learned to do this job of metal cleaning more thoroughly than it was ever done before. . . . . On our Twentieth Anniversary, we want to take this opportunity to thank you for this fine testimonial to our ability to solve such problems and we are going to 'leave no stone unturned' to merit your continued support. . . . . Send for twenty-four page brochure that describes all of the NORTHWEST Chemical products.



LO HI pH

NORTHWEST CHEMICAL CO.
9310 ROSELAWN DETROIT 4, MICH.

pioneers in pH cleaning control — serving you since '32



Evaporators on way to automatic anodizing unit. Demineralized water is used for final rinse and sealing operations.

Water control plays important role in finishing of aluminum

fifth in a series of articles on use of demineralized water in appliance plants

by Kenneth E. Walden • METALLURGIST, REYNOLDS METALS COMPANY, PARTS DIVISION, LOUISVILLE, KENTUCKY

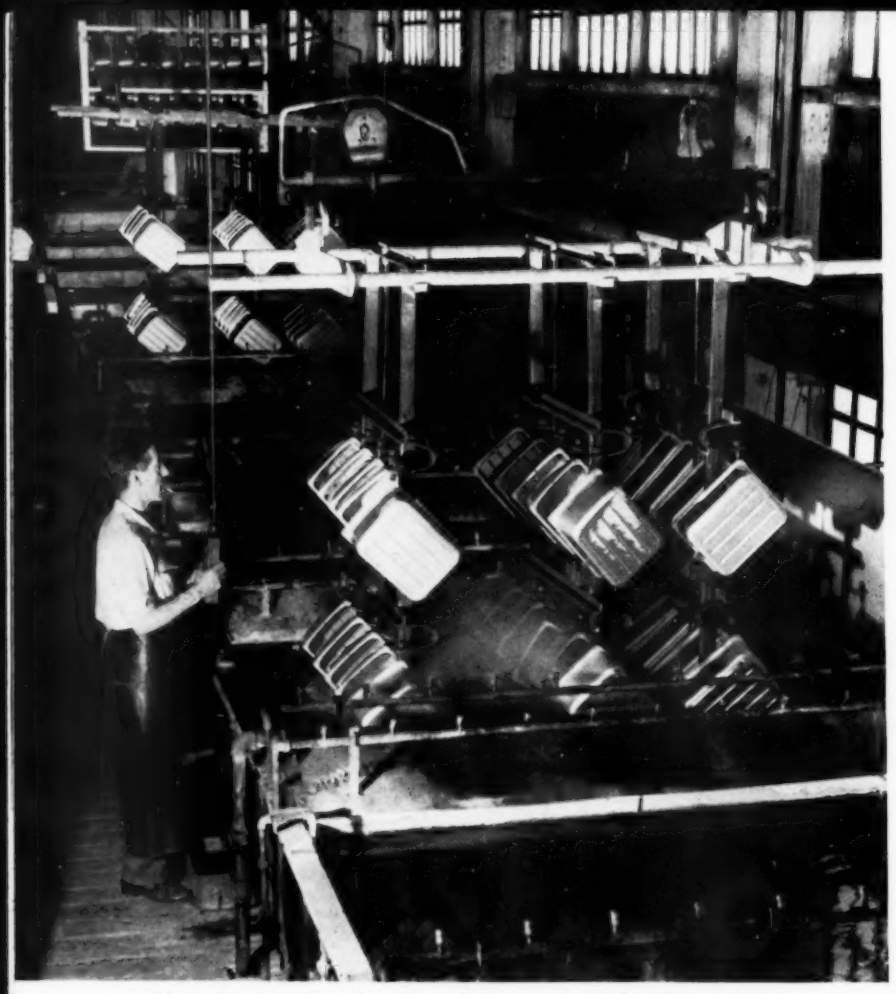
Exclusive feature finish

Aluminum finishing departments are constantly running into problems caused by the usage of highly alkaline hard water, with concurrent rejection of parts because of water spotting, residues, and corrosion. This matter has long been recognized at Reynolds Metals Company, Parts Division, Louisville, Kentucky, the result being that the use of demineralized water has been a standard practice whenever critical cleaning operations are required. Louisville tap water contains from 150 to 300 parts per million of dissolved solids, and is quite alkaline in nature. Such water is not conducive to operations where the metal surface must be as free from foreign matter as possible. Some of the operations in which demineralized water is used at Reynolds, along with reason for using, are given below.

Importance of deionized water for cleaning prior to buffing

Water spotting, caused by hard water when cleaning such parts as aluminum cooking utensils, can be unpleasing to the eye when given a buffed finish. The deposits of salts and superficial surface attack caused by hard rinse water are difficult to remove in buffing without extra effort, which obviously increases the cost of the buffing operation.

After sunraying the bottoms with emery paper, in most instances, upon close visual inspection, the outline of the spots can still be detected. These undesirable water spots can be eliminated by use of demineralized water



Above: Refrigerator crisper pans being processed through anodizing line. These pans are final rinsed and sealed in demineralized water.

Below: Photo of demineralizer unit at Reynolds Metals Company.



in the final rinse stage of the cleaning cycle.

Effects of hard water in final rinse and seal tanks of etching and anodizing systems

It is particularly important to use de-ionized water in final rinsing and sealing when anodizing. In addition to eliminating water spotting on finished parts when etched or anodized, salt spray tests have proven that a much better seal is produced when using demineralized water in place of tap water. Also, in many instances tap water will cause an excessive powdery residue on the surface of anodized parts after sealing. This is due to a deposit of dissolved solids in the hard water. In color anodizing, water control must very definitely be practiced, as contamination and the pH of the dyes and seal solutions are extremely critical. The foregoing factors determine the rate of dye absorption and the uniformity of color on the finished parts. By use of demineralized water, impurities are kept at a minimum and the pH is more readily controlled, thus making it easier to maintain a color match.

Water control important prior to painting

When painted parts are subjected to humidity tests, results of the use of hard alkaline water can readily be seen in most instances. The alkaline residue left on the parts at the spots or streaks will show up as fine pinpoint blisters. Through the use of demineralized water in the final rinse and seal tanks the formation of this undesirable residue can be eliminated, thereby eliminating the blistering tendencies and assuring better paint adhesion.

Deionized water used in flushing out tubing of refrigerator evaporators

From experience in fabricating and finishing refrigerator parts it has been found that one of the most critical is the refrigerator evaporator. At present we are making aluminum evaporators for several of the leading refrigerator companies. As corrosion resistance is very important it is

to Page 63 →

HOMMEL CERAMIC MASTERPIECE SERIES*



HOMMEL MATERIALS MAKE *Masterpieces*

Sales representatives throughout the world

Merry Christmas

This is the Season when we set aside the ordinary business of the day and gather our families about the hearth and contemplate the miracle of Bethlehem. It is the Season of good cheer and the Brotherhood of Man.

We at The O. Hommel Company wish a most happy Christmas and healthy and prosperous New Year to our many friends throughout the world. Once again we pray for peace on earth and good will toward all mankind.

THE O. HOMMEL CO. PITTSBURGH 30, PA.

POTTERY • STEEL AND CAST IRON FRIT
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Hommel Tite-Wite Frit available in Great Britain through C. J. Baines & Co. Ltd.
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New Supplies and Equipment

L-10. No-torch cold solder for pattern repair

New The pattern shop technique at Lancaster Malleable Castings Co. has been substantially changed by the use of a new no-torch



cold solder in their pattern repair and revamping methods. At first this metallic filler was used primarily for filling imperfections in castings.

The company began to experiment and found other successful uses for this no-torch cold solder. It was found to be excellent for adding additional clearance to the core print of an aluminum match plate in order to allow clearance for setting the cope over the cores without scraping. Another problem solved with the new solder was on a small master pattern which required fillets and radii in corners. Lancaster also found that pattern nicking during foundry operations could be repaired quickly and efficiently with the solder.

It is also stated that the no-torch cold solder adheres permanently to all types of pattern material, including aluminum, plastic, brass, tammastone and wood.

More Information

For more information on new supplies, equipment and literature reviewed here, fill out the order form, or write to us on your company stationery.

L-11. Tapered plastic discs designed to mark traffic lanes

New An idea recently introduced in Canada, and now taking hold in this country, is the use of three-inch diameter tapered plastic discs to eliminate costly and constant painting of traffic lanes in industrial plants.



The highly visible bright yellow (or white) discs are feather edged, tapered up to a ¼-inch high center, thus warning vehicle operators or pedestrians by sight as well as feel.

The new safety line markers are injection molded, solid color throughout.

Oil, grease, hydrocarbons, or ordinary cleaning solvents have little effect on the markers. Spaced about 24 inches apart, they are easily applied to any floor or road. Plant traffic may run over markers without damage.

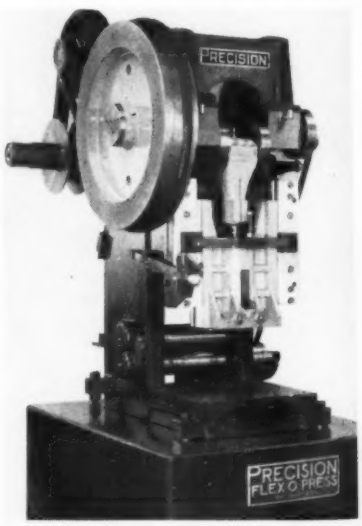
L-12. Dipping process cuts paint loss from up to 85% to almost nil

New A new dipping process being used by Apex Stamping Co. has reduced paint loss from as high as 85% to almost nothing. The newly-developed process uses a hydraulic means of controlling the capillary action in the painting process.

The new finishing equipment, using many ingenious devices in the conveyorized department, has cut the time of production in half, in addition to eliminating waste.

L-13. Automatic stamping press with built-in feed rolls

New As an aid to eliminating material handling costs, a new high speed automatic stamping press of 30-ton capacity, with built-in



feed rolls, embodies some new features entirely new in presses.

A press ram is contained on a multiple of ball bearings. . . . Adjustable roll lift in ten steps by means of palm knob for varying thicknesses of metal. . . . Leveling facilities to eliminate strain set up in bolting to uneven floor. . . . Feed rolls built for closest relationship to the die, infinitely adjustable through over-running clutch from 0 to 12″ feed.

L-14. Portable electronic tool for maintenance work

New A new portable electronic instrument locates sources of trouble in all types of mechanical equipment. Known as the Elec-Detec,

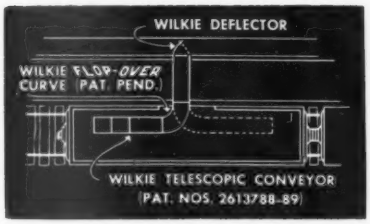


this electronic stethoscope saves time, work and trouble by locating friction noises in bearings, pistons, gears, ratchets, cams, clutches, etc.

The instrument uses a metal probe which serves as a microphone to locate the exact source of tell-tale noise. Sound impulses are transmitted through an amplifier to headphones. Sounds can be detected at low speed that otherwise would be heard only at high speeds. It is furnished complete with batteries and leather carrying case.

L-16. Mobile flop-over conveyor

New A recently developed time-saving 90° conveyor curve requires no adjustments when direction is changed. *Designed for filling*



or emptying freight cars, the flop-over conveyor curve provides great flexibility and eliminates all set-up time. The system is said to save the half-hour to an hour normally required to reverse and position conveyors for box-car loading.

L-17. Mono-column demineralizer with capacity of 4500 grains

New A new line of industrial demineralizers, with a capacity of 4500 grains, is designed for users of up to 100 gph of high purity water. The units are compact, requiring for installation only 2′ x 2′ x 7′6″ of floor space, connection of influent to plant's water system, and connection of effluent to those points where high purity water is required.



A flow meter on the influent enables the user to control the water intake for the most efficient ion exchange action.

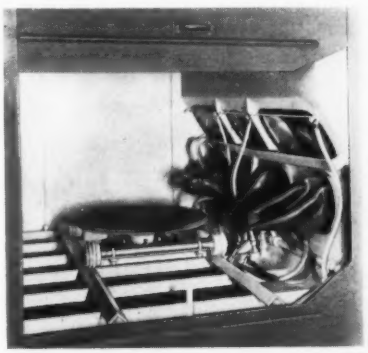
Operating costs average from 15¢ to 30¢ per 1000 gallons for mineral-free water, the equivalent to triple-distilled water.

L-18. Punch press feeder

New A re-designed version of the mechanical press feeder broadens its application in secondary die work and permits its use for parts transfer operations not connected with punch presses. Operator places the part into a nest, and transfer arm picks the part out and places it into the die.

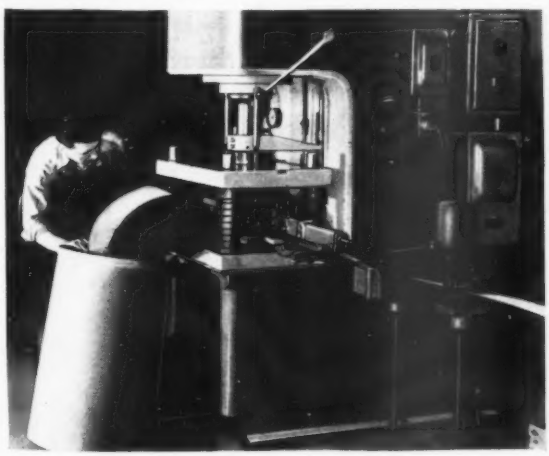
L-19. Wet blasting machine for large and heavy pieces

New A new model wet blasting machine is intended for all precision and finishing applications involving large and heavy pieces. Some typical applications are in the blending of different types of finishes on aluminum; removing heat treat scale; deburring; surfacing tools, such as broaches, before and after plating; manufacture and maintenance of forging dies. Photo shows interior of unit which handles pieces up to 3500 lbs.



L-15. Guide pin covers give 25% greater average life to dies

New In a comparative survey made recently among a group of large industrial organizations using new guide pin covers on their metal forming dies, it was found that 25% greater average life was added to dies equipped with this protective Elasticone covering.



The guide pin cover is a spirally wound cone made of specially heat-treated alloy flat steel. Manufactured in a group of stock sizes to accommodate most industrial presses and die sets, it is easily snapped into place over the pins and bushings without the use of tools. It is retained in position by inherent spring tension, and does not require attachment to the die surface. It functions simply and is self-aligning. As the press opens and closes, the Elasticones move accordingly. Eliminates pinch point between bushings and pins.

L-20. New radiant heat burner has no internal baffles

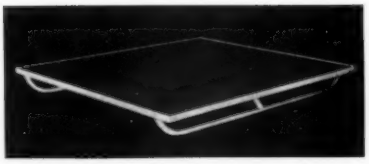
New A newly-designed "Radi-Heat" burner eliminates fluted or internal baffles. The burner will not backfire or blow itself out



at any manifold pressure. The gas retaining section of the refractory gives faster light-up, thereby reducing amount of raw gas admitted oven. Photo illustrates refractory design. The system may be applied to applications such as paint, mold core, moisture and other drying operations, as well as for heat treating, aging, burnoff, billet heating, etc.

K-21. Tubular steel pallet of sled-like construction

New An all-purpose heavy-duty tubular steel pallet features sled-like construction which permits easy movement over uneven surfaces, thus making the light-weight pallet



adaptable for handling materials in storage racks of any design, in conveyor systems, and all phases of production and transportation. The eight-entry pallet can be built to customer's specification without added cost.

L-23. Two-stage air blow gun

New A new air blow gun, with positive two-stage throttling action was developed to get away from the danger and discomfort of

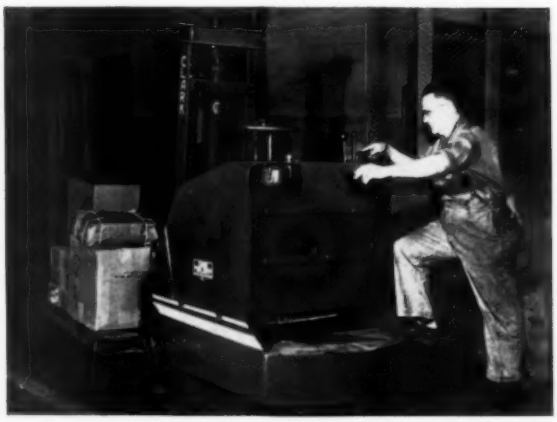


having dust, dirt and grit blown in operator's face when the air valve is released. A ball bearing swivel makes fast and easy movement possible. The gun is available in five, ten, or fifteen inch lengths.

L-22. "Stand-up" fork truck can operate within own length

New An electric "stand-up" fork truck, which can operate within its own length, is designed for warehousing and freight terminals where close quarters and narrow aisles demand high maneuverability, and where driver must continually mount and dismount. It has a capacity of 2000 pounds at 24", 2500 pounds at 15", and 1650 pounds at 30".

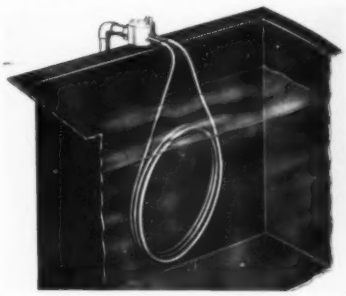
Acceleration and direction of travel are controlled through movement of a single lever.



The Stoway, as it is called, features two methods of braking. Heavy-duty hydraulic service brakes on the drive wheels serve regular and parking-brake operations. "Deadman" or parking brakes go into action when the driver dismounts or removes his foot from pedal. Travel speed is 6 mph when loaded, 6.5 mph when empty.

L-24. Portable immersion-type heating unit for plating baths

New A new immersion-type electric heating unit for electroplating baths has a thick lead sheath which resists corrosive acid action of

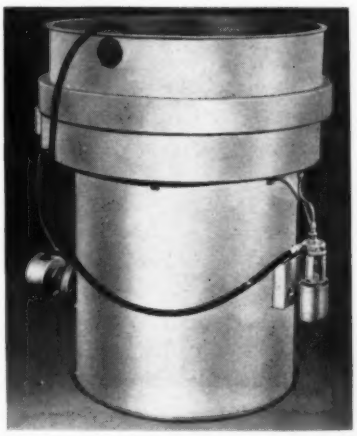


copper, chrome, and nickel solutions. The unit offers these advantages over steam heating:

No dilution of the bath from live steam; high temperatures obtained; no installaation cost—just hang over side of tank; being portable, several tanks can be served by one heater; room heat and humidity are lower, as all heat goes into the bath.

L-25. Semi-portable degreaser

New This highly efficient, compact unit is designed to clean small and medium sized parts and is ideally suited for shops, labo-

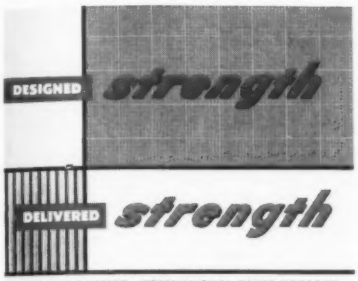


ratories, and small manufacturing plants where production up to 600 pounds of steel per hour must be degreased. Two standard models are available—one electrically heated, the other operated by steam. The equipment is 48 inches from top to base, affording a low, convenient working height.

The interior is coated with a new corrosion-proof coating.

Industrial literature

120. Packaging guide for shippers



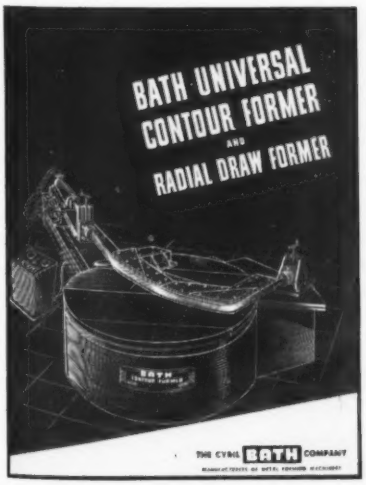
This booklet is available as a guide to shippers interested in controlling their freight loss and damage. The booklet explains some of the principles of modern container design, and presents some case histories of shippers who have successfully curtailed loss and damage. Case histories cover shippers of refrigerators, television, gasoline pumps, and other metal products.

121. Alkaline de-rusting brochure

A new electrolyting de-rusting and de-scaling method for iron and steel is contained in a new four-page brochure. Information includes metals treated, equipment, solution make-up, and operating notes.

122. Booklet on contour forming

This 34-page booklet contains valuable information on stretch forming, compression forming, and radial draw forming. Die set-ups are graphically illustrated, as are typical examples of contour forming. Several pages are also devoted to specifications and auxiliary equipment.



123. Booklet on metal recovery by ion exchange

A new booklet, "Metal Recovery by Ion Exchange", includes information on metal recovery from acid solution, and from anionic complex by cation exchange. Tables, charts and other data illustrate some of the forms in which industrially important metals are present in solutions and how they might be economically recovered.

124. Protective coatings folder

This 12-page folder describes the entire line of ACP phosphate coating chemicals for paint bonding, rust proofing, protecting friction surfaces, and improving cold forming. Illustrations of these protective coating applications are included.

125. "Refrigeration Fundamentals"

This latest edition of "Refrigeration Fundamentals" contains over 900 pages, including 233 tables, 362 illustrations, 4 inserts, glossary and index. It contains up-to-date data in accordance with the newest developments and practices in the fields of refrigeration and air conditioning. Price is $7.50 in U.S., $8.00 elsewhere.

126. Brochure on ionic spraying

Information on the new "Ionic Gun" is contained in this brochure.



It is stated that with this ionic high potential paint spraying equipment, overspray is held at a minimum. The manufacturer of this gun claims minimum rejects, higher product quality, minimal paint consumption, lower capital investment, no skilled labor required, no rentals, and no royalties.

127. Complete guide to metal working machinery and industrial tools

This free book contains information on beading machines, benders, brakes, grinders, hoists, notchers, punch presses, rolls, metal shears, welding machines, etc.

128. Data on 35-15 wrought alloy

A new data sheet contains material on a wrought alloy of the 35-15 type which is used wherever temperatures are encountered between 1200-2200° F., and where strength and corrosion resistance are required.

FINISH
360 N. Michigan Ave.
Chicago 1, Illinois

Please forward to me at once information on the new supplies and equipment and new industrial literature as enumerated below:

No._____ **No.**_____ **No.**_____ **No.**_____

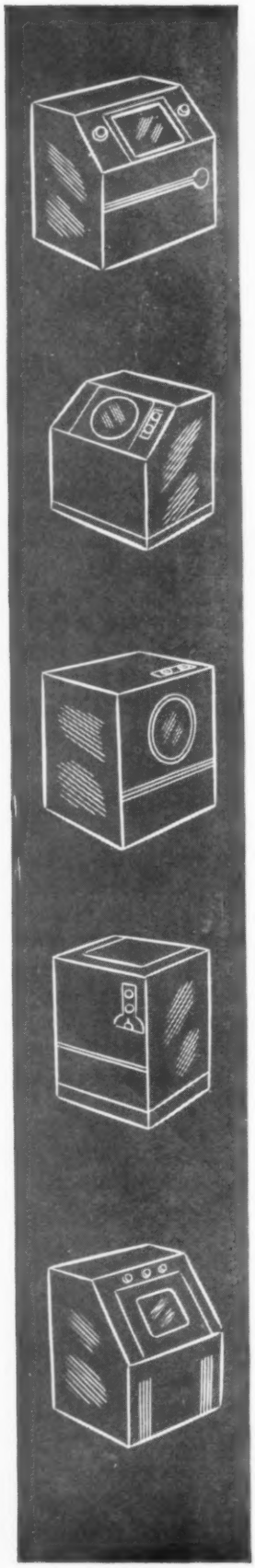
No._____ **No.**_____ **No.**_____ **No.**_____

Name _____ **Title** _____

Company _____

Company Address _____

City _____ **Zone**____ **State** _____



Now... a foolproof, low-cost timer for washing machines and dryers!



The Lux Clock Manufacturing Company, largest maker of precision timing instruments for industry, announces an important new timing development for manufacturers of washing machines and dryers. Called the 1600 SERIES SEQUENCE TIMER, this latest Lux timing development employs the use of a simple accessory switch attached to the famous Lux Minute Minder which was developed more than 20 years ago and has proved so reliable on hundreds of products and hundreds of thousands of installations throughout the years.

The spring driven mechanism on the new 1600 SEQUENCE TIMER requires no electrical wiring for power and no timer switch is needed. Exhaustive field tests clearly prove the timer's reliability and excellent shelf life in the face of infrequent operation. Compact and unusually simple in construction, the new Lux timer generates no heat itself and does not add to the adverse effect of high ambient temperature.

Available with 1 to 4 single-throw switches.
Range: 30 — 60 — 120 and 180 minutes.

Approved by Underwriters' Laboratories for 25 amps, 230 volts, ½ h.p. — A.C.

For the full story on this foolproof, low-cost timer get in touch with LUX today!

LUX CLOCKS

The LUX CLOCK MANUFACTURING CO., INC.
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Photo taken during National Home Laundry Conference luncheon at Commodore Hotel, New York City.

National home laundry conference

industry executives, home economists, and representatives of the education and publishing fields meet to discuss home laundering problems

HOME economists and executives from industry joined representatives of the education and publishing fields in discussing home laundry problems at the 6th National Home Laundry Conference held October 30 and 31 in New York City. The conference, staged under the sponsorship of the American Home Laundry Manufacturers Association, drew an attendance of nearly 500 persons.

Roy A. Bradt, Conference chairman, and vice president of The Maytag Company, presided as chairman of the first day. Chairman on the second day was F. M. Mitchell, AHLMA president, and manager of the Roanoke (Virginia) factory branch, Frigidaire Division, General Motors Corp.

John M. Wicht, vice president, Blackstone Corporation, presided over one session on "Planning the Home Laundry." Walter C. O'Connell, manager of engineering, home laundry equipment department, General Electric Co., presided over the closing session on equipment performance, the industry's progress, appliance service, future trends, and the Association's study of the National Sanitation Foundation.

General chairman of the Conference, Howell G. Evans, vice president, Hamilton Mfg. Co., was unable to attend due to illness. He is also treasurer of AHLMA.

Industry growth "phenomenal"

At the opening session, F. M. Mitchell, AHLMA president, said that the growth of the home laundry equipment industry since World War II has been "phenomenal", and the outlook is for an even greater increase in the purchasing of household washers, dryers and ironers.

Mitchell gave credit for "this ever-increasing acceptance of home laundering appliances" to the Conference participants, including women's magazine editors, representatives of various other publications, educators, government extension workers, home economists in numerous fields, and the makers of soaps and synthetic detergents, fibers and fabrics, "and many others, all of whom serve along with our own industry's producers, distributors, dealers and the public utilities to inspire a new concept of the work, time and money which can be saved, as well as better results obtained, through use of today's appliances."

George H. Klumb, technical director, Culligan Zeolite Co., discussed the importance of conditioned water

in the home laundering processes.

Report of economists

Miss Fern Halverson, Whirlpool's director of home economics, discussed how to avoid lifting through proper use of the wringer, warned against overloading, and urged proper conditioning of wash-water.

Miss Irene Goodhue, Maytag's chief home economist, talked about the importance of placement of equipment, stressing that if the laundry is close to the food preparation center, innumerable steps can be saved.

Miss Verna Miller, Frigidaire's home economics department director, warned that dryer timing instructions should be considered only as an aid to the homemaker "who must find out for herself the drying times for the size and type of loads which she dries, for the state of moistness or dryness which she prefers."

Mrs. Helen N. Tangen, Hamilton's director of home service, urged that homemakers do "careful reading of both washer and dryer instruction books. . . . Good washing makes for good drying."

Mrs. Florence Scott, Ironrite's home service director, cited a Cornell study which showed a highly unfavorable effect upon women's health of bad posture and long hours on the feet, adding that "a good automatic ironer can mean much to any homemaker in not only better health but also added leisure and economy. . . . . The use of a good automatic ironer can save a homemaker 36 days a year."

Report of women's editors

Mrs. Helen W. Kendall, director of appliances and home care, *Good Housekeeping,* declared that washing still is being done traditionally in too many homes. "Women need help from every quarter," she commented, adding that the time seemed right for greater flexibility in the time of washing, rinsing and water-extracting.

Mrs. Kendall presided at a presentation of findings resulting from a year's study of laundering family washers, in cooperation between her magazine and E. I. du Pont de Nemours & Co., Inc.

Miss Pamela Anderson, assistant to Mrs. Kendall, and Thomas E. Bell, of duPont, reported respectively on the study, conducted in six homes, and on the technical details of the investigation.

Miss Edith Ramsay, home equipment editor, *The American Home,* urged the use of the dryer as a "valet" for reviving rayon gabardine dresses and creased old velvet dresses and draperies, with which to "beat up a few colorful cushions for that chaise lounge."

Engineering forum

Prominent engineers of the home laundry equipment industry joined in an engineering forum at the final Conference session to trace the past, present and future of appliance design. In the course of the discussion, it was revealed that household washers as invented in the first days of the United States Patent Office, in 1797, worked along a true principle of washing accepted by all designers today.

"These pioneers in our field used squeezing of the week's washing as the only way they could see for cleansing clothes," said P. Eduard Geldhof, vice president, Whirlpool Corporation. "Today we know that washing is done by squeezing, regardless of the method used for agitation."

Various models instructed in the early '20's, he declared, were decades ahead of their time and with few changes could be typical of today's designs. There was no question of the immediate acceptance of most of the early designs, he added.

"I'd like to meet the guy who coined that old one about the customer always being right," said L. K. Baxter, general service manager, elec-

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At speaker's table during National Home Laundry Conference luncheon, left to right: George P. Castner, past AHLMA president, and Beam general manager; William Shaw, who handled publicity for Conference; Mrs. Julia Kiene, director, Westinghouse Home Economics Institute, and chairman, AHLMA home economists committee; F. M. Mitchell, of Frigidaire, AHLMA president; Roy A. Bradt, Maytag vice president, Conference chairman; Dr. Verda McLendon, research chemist, Bureau of Human Nutrition and Home Economics, U.S. Dept. of Agriculture; Walter O'Connell, manager of engineering, General Electric home laundry dept., and Conference co-chairman; and John J. Reinecke, AHLMA executive secretary. finishfoto



Porcelain Enamel Institute annual meeting

W. A. Barrows elected president at meeting held in White Sulphur Springs

THE Porcelain Enamel Institute, national trade organization of porcelain enameling plants and their suppliers of material and equipment, elected new officers during their 21st annual meeting held October 22, 23 and 24 at The Greenbrier, White Sulphur Springs, W. Va.

W. A. Barrows, of Barrows Porcelain Enamel Co., Cincinnati, Ohio, was elected president, succeeding R. A. Dadisman, of Armco Steel Corp., who will continue on the PEI Executive Committee in an advisory capacity.

Newly elected vice presidents include: H. H. Wineburgh, Texlite, Inc., Dallas, Texas; W. N. Noble, Ferro Corporation, Cleveland, Ohio; E. O. Brady, Briggs Manufacturing Co., Detroit, Mich.; R. N. Smith, Temco, Inc., Nashville, Tenn.; J. A. Holcomb, Wolverine Porcelain Enameling Co., Detroit, Mich.; and R. C. Myers, United States Steel Co.

Reelected were P. B. McBride, of Porcelain Metals Corp., Louisville, Ky., treasurer; and Edward Mackasek, managing director, and John C. Oliver, secretary, both of Washington, D. C.

Keynote speakers

Keynoting the 21st annual meeting was the "Stand Up and Fight" luncheon. The speakers were: R. A. Dadisman, retiring PEI president; John W. Craig, vice president of Crosley Division, Avco Mfg. Corp.; Ellsworth Gilbert, sales promotion manager of Frigidaire Div., General Motors Corp.; D. H. Malcolm, Armco Steel Corp.; and R. C. Myers, United States Steel Co.

Looking at future markets for consumer durable goods

"Never underestimate the power of today's babies in tomorrow's markets" emphasized R. A. Dadisman, retiring president, in his address before the Institute.



W. A. BARROWS, PEI PRESIDENT

"A substantial foundation for the 'soaring 60's' is provided by the wave of family formation and the tremendous baby crop of the past decade.

"Within the next eight to ten years, these new citizens will be starting to establish their own families, with tremendous needs for all kinds of consumer's durable goods. . . . In the meantime, yesterday's shortage of babies will be causing some trouble for several years. The deficit in family formation and births in the early 30's is catching up with us. Since there will be fewer persons in marriageable age brackets, the market force created by new families will have less vigor for some time," the speaker pointed out.

"Coupled with that we find our industry with a capacity grown to three times its pre-war size. To the consumer, that means he will expect

P. B. McBride (left), PEI treasurer, and president of Porcelain Metals Corp., presents "scroll of thanks" to R. A. Dadisman, of Armco Steel Corp., retiring PEI president, during 21st annual meeting of Porcelain Enamel Institute, at White Sulphur Springs, W. Va.





Photo shows some of the new PEI Board of Trustees (complete listing on Page 72).

to reap the benefits of old-fashioned competition . . . . with improved products and better service at reasonable prices.

"To management it means that we must learn to 'reach beyond our reach'. For in the very near future, the only remaining shortage may be a shortage of creative salesmanship," stated Dadisman.

Continued development work

John W. Craig, vice president of Avco Mfg. Corp and general manager of its Crosley Division, called for the industry's suppliers to "keep up their developmental homework" and seek new means of lowering the costs of their goods and services or the industry would have to look elsewhere for new and less costly materials for its products.

Stressing that "margins of profit for manufacturers of consumer goods have seldom been so dangerously low and they are shrinking every day," Craig added that the suppliers "are going to have to help pare our costs to give the customer the best possible price on our products. You must keep up with technological advances and engineering and production developments to absorb more of the rising materials costs yourselves. You must experiment on new products and methods if you are to operate competitively and keep yourselves—and us—in the market."

"You must sell us goods and components as inexpensively as we can produce them ourselves; otherwise we would be foolish not to build them ourselves," said Craig.

Appliance producing industry has tremendous capacity

In spite of rising costs, shrinking margins, etc., declared Craig, "it is interesting to note what has happened production-wise in the appliance industry during the past 15 years. The following figures illustrate the tremendous potential and capacity of this manufacturing operation.

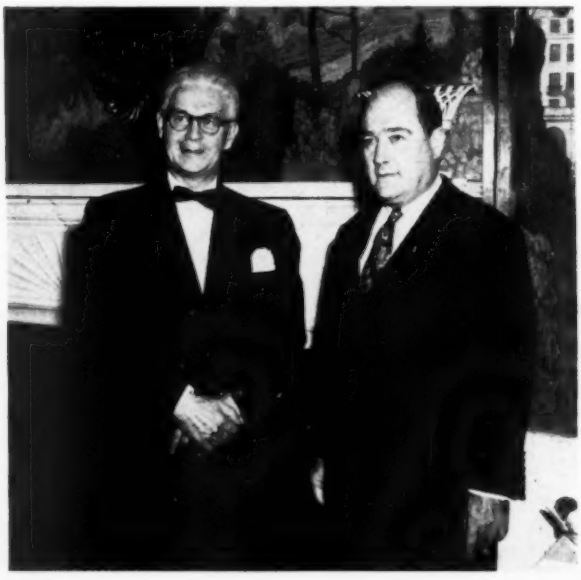
"In the five pre-war years, 1937 to 1941, *refrigerator production* in the United States rose from 2,310,000 to 3,500,000 units annually. In the post-war years, 1946 to 1950, it went from 2,310,000 to 6,200,000 annually. Last year it fell off to 4,075,000 units, and this year it is expected to be about 3,500,000 units.

"*Electric ranges* rose from 405,000 produced in 1937 to 728,000 built in 1941. After the war, production jumped from 576,700 in 1946 to 1,830,000 in 1950, and then slacked off to 1,400,000 last year. In 1952, production is anticipated to be slightly over 1,000,000 units.

"In *home freezers*, for which no pre-war figures are available, production skyrocketed from 210,248 in 1946 to 1,050,000 in 1951. This year it will be up slightly to 1,200,000 units.

"*Automatic dishwashers*, a field that has hardly been touched, showed an industry-wide production total of only 4,600 units in 1939. This rose to 7,850 in 1951. Then after the war, the figure jumped to 22,000 in 1946 and to 260,000 last year, representing more than ten times its total of only six years before.

"In *automatic washing machines*, the industry-wide figure in 1939 was only 40,000. By 1941 this had risen to 120,000. In 1946 the total was 350,000, and last year it hit 1,603,-



Guest speakers included Ellsworth Gilbert (left), of Frigidaire, and John W. Craig of Crosley.

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000. The estimate for 1952 is in the neighborhood of 1,500,000.

"*Automatic dryers*, too, have increased from a mere 2,500 in 1941 to nearly half a million last year, and may reach 750,000 this year."

Two-fisted selling needed

"Good old two-fisted selling is on the wane, and is at its lowest ebb since before World War II," declared Ellsworth Gilbert, sales promotion manager, Frigidaire Division of General Motors Corp.

Production increase up 3 to 1 over sales force increase

"We have seen how over the years productivity and salesmanship grew apace, both in quality and quantity. But that is no longer true, and it hasn't been true for 13 long years. Between 1939 and 1952, our nation's production went from 91 billion dollars to 166 billion dollars (and both these figures are expressed in terms of 1939 dollars) for an increase of 83%. Increase in the number of salesmen in the same period was 27%. The increase in production has been 3 to 1 over the increase in the nation's sales force. What does this mean? It means that in a peace time economy our sales force as presently constituted simply could not support our present productivity."

Three steps needed to build two-fisted selling organizations

Gilbert told his audience that three steps are necessary in building needed sales organizations and to develop the modern counterparts of the "two-fisted salesman" of the past.

The *first step* is to convince both retailers and manufacturers that the building of a sales organization is a continuing job. He said that too many companies seem to believe that "real hard-hitting, two-fisted salesmanship can be turned on and off like a faucet — as the situation demands."

The *second step* in building an aggressive selling organization is to establish a fair and equitable compensation plan. "We must all realize that a plan that was fair and equitable ten years ago is not necessarily the same today," said Gilbert.

The *third step* is a continuous program of training on both product and basic salesmanship. In order to protect the considerable investment in time, money and effort made every time a new salesman is hired, everything possible should be done to help that salesman to become successful.

Gilbert continued that sales training should teach the salesman *what* he should do, *how* he should do it,



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William Lescaze reported on progress of "curtain wall" project.

and *why* he should do it—in order to make more profitable sales—build more customer good will, and in general, build a profitable business for his employer and himself.

"Selling" must be studied

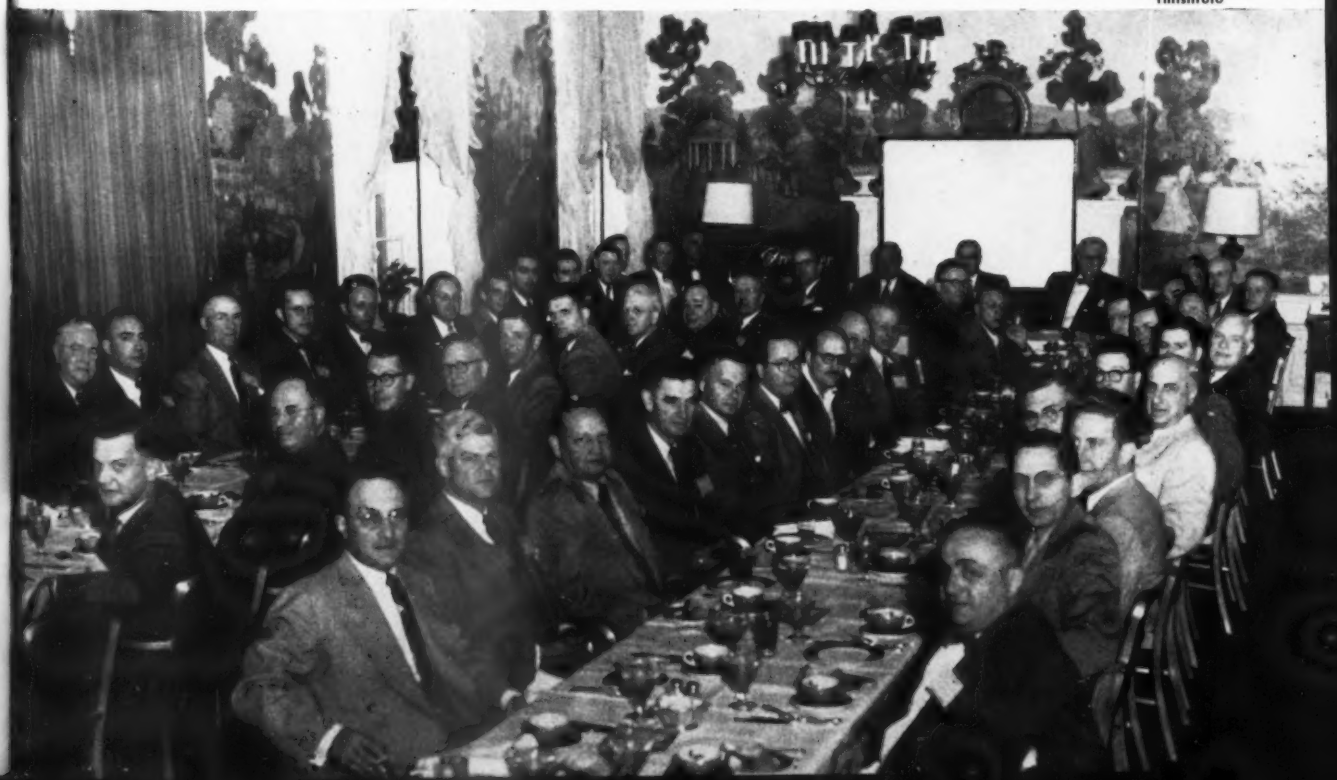
Gilbert stressed that "selling—if successful—is a profession that must be studied, learned, practiced, and improved continually. And it must be taught constantly and supervised closely." He also pointed out that the right kind of *leadership* is essential to a successful sales training program.

"Leadership is training, it's supervision; but it's also analyzing, guid-

to Page 72 →

Photo taken during luncheon meeting of Porcelain Enamel Institute in White Sulphur Springs, West Virginia.

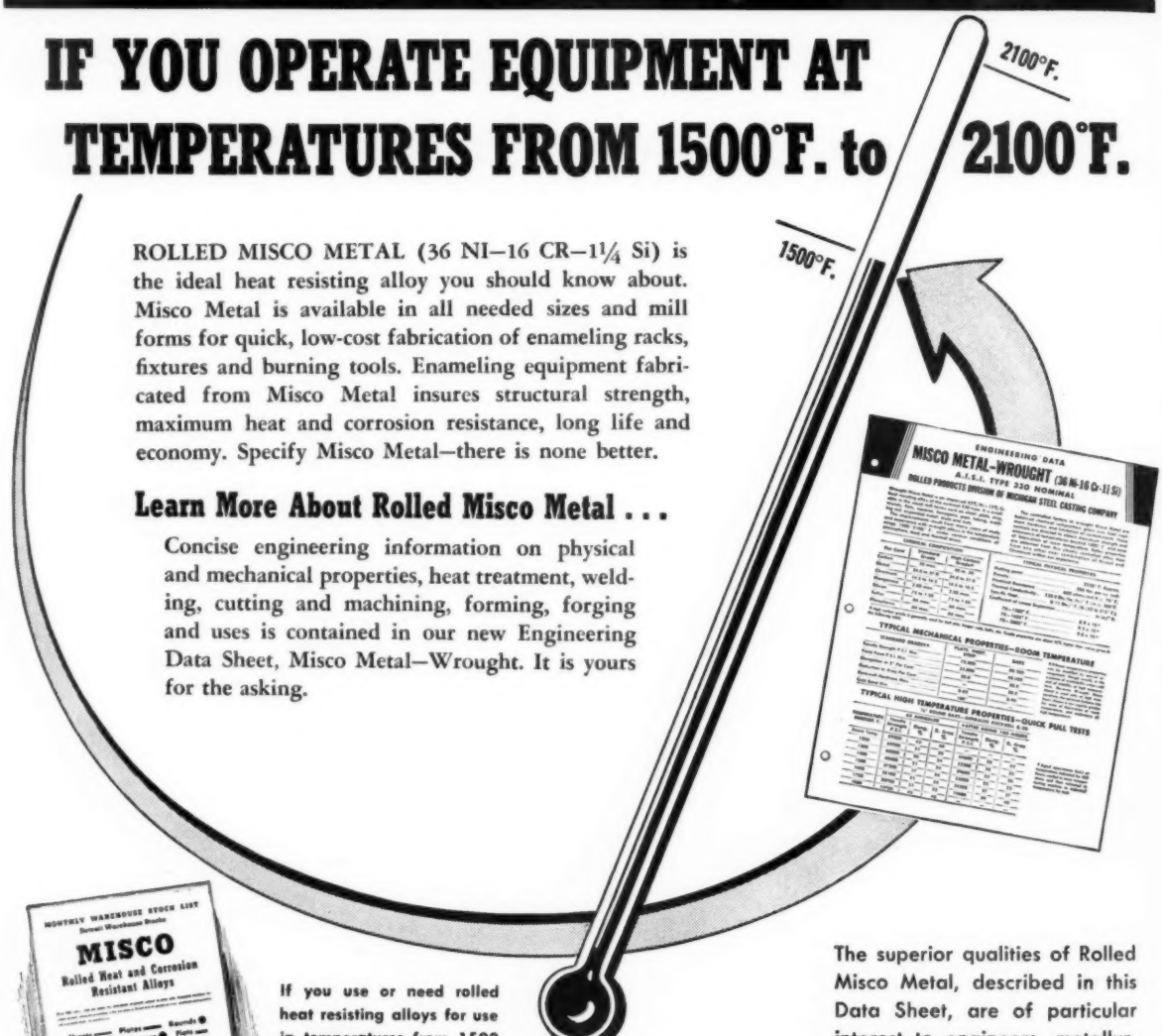
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Gas appliance show held in Atlantic City

report of American Gas Association annual convention and biennial exhibition of Gas Appliance Manufacturers Association

SOME 10,000 representatives of the gas industry from coast to coast attended the biennial exhibition of the Gas Appliance Manufacturers Association, held the last week of October in Atlantic City. The exhibition, concurrent with the American Gas Association annual meeting, was the greatest show in the industry's history, reported Harold Massey, GAMA exhibition manager.

Exhibits ranged from a 24-karat gold-plated gas range to a huge earth-moving machine which gouges out trenches for natural gas pipelines. Every field of the gas industry was represented at the exhibition which served as an opportunity for appliance dealers and wholesalers, plumbing contractors and gas utility representatives to preview the latest developments in gas appliances and equipment.

GAMA also staged a beauty pageant at which Miss Gas Flame of 1952 was selected from an array of beautiful models.

Donnelly heads GAMA officers

New officers of GAMA, elected at their annual meeting last spring, were also installed. They include:

President, James F. Donnelly,* assistant general manager, Permaglas-Heating Division, A. O. Smith Corp., who succeeded Louis Ruthenburg, chairman, Servel, Inc.; *1st vice pres.*, Sheldon Coleman, president, The Coleman Company, Inc.; *2nd vice pres.*, T. T. Arden, chairman, GAMA's Pacific Coast Manufacturers Section, and exec. vice pres., Grayson Controls Div., Robertshaw-Fulton Controls Co.; *treasurer*, Lyle C. Harvery, president and general manager, Affiliated Gas Equipment, Inc.; *secretary*, H. Leigh Whitelaw, the Association's managing director. (For complete list of new officers, see report of GAMA annual meeting in July 1952 *finish*.)

*Now Sales Vice President of Servel, Inc.

Where will we be in '53?

The trend of the gas industry is up-growth; expansion and progress are key words in the gas industry. This optimistic viewpoint was expressed by Charles E. Bennett, AGA president, in his address entitled "Where Will We Be in '53?"

Total gas industry revenues have increased 22.6 per cent in the last 18 months, Bennett said. Long-term capital financing by straight operating gas utilities and pipelines is up more than 20 per cent since 1950. It is contemplated that 5.6 billion dollars will be spent for new construction in the next five years. Utility sales rose 8.8 per cent, and gas customers gained 4.2 per cent to reach 26 million.

Competition from all sides

The gas industry must meet competition for steel, for manpower, for increased rates, and for the investment dollar, Bennett pointed out. Great competition surrounds the sale of gas as a fuel and the sale of its appliances and related equipment.

The sale of gas appliances, with the exception of house heating, have not kept pace with the sale of competitive appliances, said Bennett, warning that "This is a serious threat to our base load. . . . We sense a failure in the marketing of high quality gas appliances as compared

Looking at floor plan of GAMA exhibitors, left to right: James F. Donnelly, new president of GAMA; Harold Massey, GAMA assistant managing director and convention manager; and Al Skean, Atlantic City convention bureau manager.





Attention-getter at Caloric exhibit was their new clothes dryer.



A-P Controls displayed their line of controls for appliances.

St. Charles Mfg. presented the McCall's "Open-Plan Kitchen."



with the number of high quality competitive appliances sold. . . . There is evidence that we are failing to capture the replacement market. . . . Indications are that inferior gas equipment is being installed in too many new homes. . . . Recent surveys indicate that too many customers are not aware of the excellent performance of modern gas appliances."

Bennett, who is also president of the Manufacturers Light and Heat Co., Pittsburgh, Pa., then posed some questions for his fellow utility men: "Are we willing to accept the responsibilities that our progress has created? Are we bending every effort to improve our safety practices? On our base load problem, are we going to have more talk or more action? Are we sincerely trying to improve our customer service?"

Outlining future progress

In outlining a program for the industry's future progress, Bennett emphasized that the "industry must be united as a cooperative dynamic enterprise. We must coordinate our procedure and act according to careful strategic planning. We must be farsighted, imaginative and forceful in dealing with the problems of competition, expansion and economic stress," he said.

Ruthenburg sees "tremendous opportunity" for expansion

Although the American gas industry has grown spectacularly during recent years to gain sixth place among the nation's industries, basic conditions still indicate a tremendous opportunity for expansion of gas service to home and industry, according to Louis Ruthenburg, chairman



of Servel, Inc., and retiring president of GAMA.

Ruthenburg said that significant factors, such as new housing requirements and vast replacement needs, should inspire courage and audacity on the part of gas utilities and manufacturers alike. He urged them to unite in an intensive sales and service program. He also warned against the complacency which tends to creep into industries which experience huge gains in relatively short periods of time.

Guides to industry progress

The retiring GAMA president reminded the convention of some objectives which have served as guides in the industry's progress during recent years. Among the objectives toward which he suggested renewed effort were:

1. Continued improvement in the training of sales personnel.
2. Scientific study of the distribution of gas appliances and equipment.
3. Constant effort to improve installation and servicing practices.
4. Research and development of new and improved gas appliances and equipment.
5. Increased advertising, publicity and promotion in behalf of gas usage.
6. Greater attention to the role of gas and gas-burning equipment in new housing.
7. Better integration of nationwide promotional campaigns.

Low-rent housing projects offer good appliance market

Some low-rent public housing projects are relying on gas for heating.



Another exhibitor of home laundry equipment was Bendix.



Focal point of Cribben & Sexton exhibit was their "Wheel-about range.

Lux Clock glamorized the gas appliance timer in their GAMA exhibit.







Linda Lombard, of Columbus, Ohio, won the title of Miss Gas Flame of 1952 at the GAMA exhibition. She had entered the contest as Miss Mid-West Gas. Taking a leaf from the recent national political campaign, ten beauties did their own "politicking" on the floor of the Atlantic City auditorium, handing out cards to the individual delegates asking each one to "vote" for them as queen.

water heating and cooking, according to James F. Donnelly, new GAMA president.

Donnelly disclosed that a survey of public housing projects, which are scheduled to start late this year or early in 1953 in 31 states, disclosed that 69 per cent of the units will be heated by gas, 72 per cent will use gas for water heating, and 83 per cent will be equipped with gas ranges.

He also reported that 22 of the projects would install gas refrigerators in each unit, four would be equipped with some form of inside gas incineration, and another two would supply tenants with gas clothes dryers.

The survey, not yet completed, covers more than 21,000 individual housing units of row, duplex or apartment type with an aggregate cost in excess of $220,000,000, stated Donnelly, who is also assistant general sales manager, Permaglas-Heating Division, A. O. Smith Corp.

Automatic controls increase appliance efficiency

The work load of the average American housewife has been cut in half in the past ten years principally because automatic controls have doubled the efficiency of most household appliances, it was reported by T. T. Arden, executive vice president, Grayson Controls Division, Robertshaw-Fulton Controls Co., and newly-elected second vice president of GAMA.

Arden stated that thermostats, regulators, timers and other controls now considered integral parts of gas appliances "have taken the guesswork out of home management, especially in the kitchen, the home laundry, and the heating plant."

Recent controls development

"Most recent development is the application of low-cost controls to gas room or space heaters," he said. "Within the past year the use of controls on gas-operated floor, wall, console and small forced-air units have been spreading across the country from the West Coast. This trend indicates that manual operation of individual room heaters will soon become a thing of the past."

New appliances exhibited

A water heater that provides two different temperatures of hot water simultaneously was shown by Ruud Manufacturing Co. A. B. Cameron, Ruud president, said their new Laundrymaster was developed to meet the special demands of the modern appliance-equipped home.

Whirlpool Corporation's laundry unit exhibit featured a gas clothes dryer, washing machine and overhead cabinets all in the same dusty rose shade.

A model Beauty Queen kitchen, displayed by Toledo Desk & Fixture Corp., featured specially-designed one-piece kitchen sinks with colored formica work surfaces available in a variety of pattern combinations. "This is just another example — and many other model kitchens at the exhibit bear it out — of the trend towards integrating kitchen furnishings with the rest of the household decor," stated Miss Jane Tiffany Wagner, home service editor for GAMA.

Changes appeared in automatic gas range design. They were shown in

to Page 70 →



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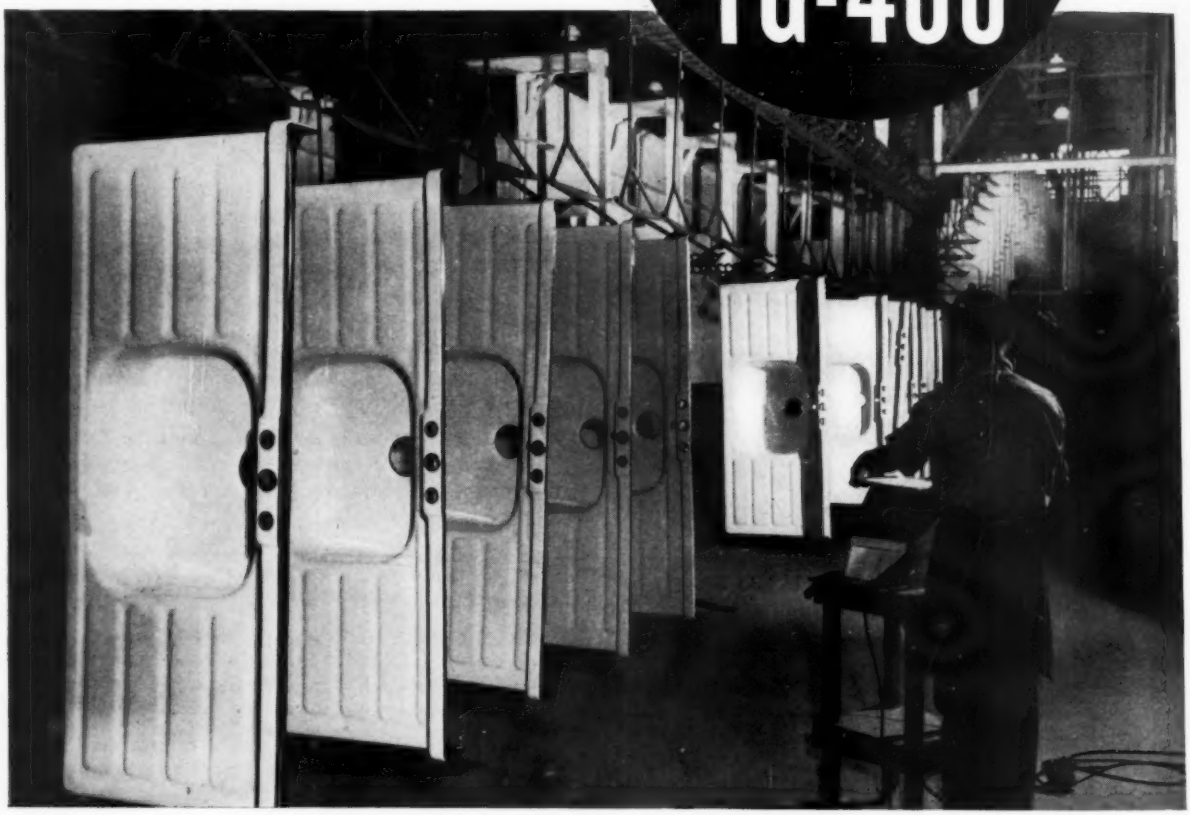
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HOLBROOK RESIGNS FROM NPA, JOINS UNIVERSAL APPLIANCE

Harry J. Holbrook has resigned as director of the Consumer Durable Goods Division, National Production Authority, to join Universal Major Electric Appliance Co., Lima, Ohio, as vice president in charge of marketing.

Before joining NPA, Holbrook was director of the range and water heater division of the Norge Division of Borg-Warner Corp.

G-E BEGINS DISHWASHER PRODUCTION AT LOUISVILLE

Assembly of major appliances has begun at General Electric's new "Appliance Park" under construction at Louisville, Ky.

Electric dishwashers were the first products to come off the lines at the new plant which, when completed, will include five manufacturing buildings for the production of all of the company's major appliances.

Harold T. Hulett, general manager of the electric sink and cabinet department, said the present assembly lines soon would be turning out between 1,000 and 1,200 dishwashers and dishwasher-sinks weekly.

NEW GERMAN GAS RANGE FEATURES MAGNETIC IGNITION

Magnetic ignition of the gas flame is a feature of a new gas range made in Germany. The device is operated by pulling a button on the range, which in turn causes the spark plug (situated under the cooking plate in the middle between four gas burners) to produce an electrical spark. With the aid of a sparking jet, the spark ignites the burner from which the gas flows. If desired, all four cooking burners and the oven may be lit with one operation.

BENDIX TO MAKE FREEZERS, REFRIGERATORS AND STOVES

Bendix Home Appliance Division, Avco Mfg. Corp., is planning to market a full line of electric refrigerators, ranges, and freezers, it was announced by Judson S. Sayre, Avco vice president, and Bendix general manager.

Sayre added, however, that Bendix does not plan on complete national distribution of its kitchen products until by the second half of 1954. First of the new line will be shown at the International Homefurnishings Market in Chicago, in January, 1953.

CHAMBERS STUDYING KITCHEN TRAFFIC PROBLEM

Chambers Corporation has developed the first in a series of "Time-and-Motion-Saver Kitchen" plans, it was announced by Howard Reed, chief design engineer. Reed pointed out that traffic congestion in the kitchen can be greatly minimized through the use of built-in appliances, properly arranged.

TORRINGTON MFG. NAMES PRES.

Andrew Gagarin, vice president, has been elected president of Torrington Mfg. Co., Torrington, Conn., succeeding S. W. Farnsworth, who becomes chairman of the board, effective January 1.

NATL. STAMPING, MT. CLEMENS METAL PRODUCTS PLAN MERGER

A proposed merger of National Stamping Co., Detroit, and Mount Clemens Metal Products Co., Mount Clemens, Mich., has been approved by directors of both companies. Stockholders of both firms will vote on the proposal at separate meetings early in December.

Should the stockholders approve the merger, National Stamping would become an operating division of Mount Clemens.

CONLON-MOORE SHOWS VENTED GAS-FIRED DEHUMIDIFIER

At the recent Gas Appliance Manufacturers Association exhibit in Atlantic City, Conlon-Moore Corp., Chicago, showed what the company says is the first vented, fully-automatic, gas-fired domestic dehumidifier.

Dependent on the particular humidity conditions, the unit has the capacity for removing one pound (pint) of moisture per hour. It can handle areas up to 10,000 cubic feet.

MITCHELL AIR CONDITIONER FOR BOTH COOLING AND HEATING

Mitchell Manufacturing Co., Chicago, has announced a new room air conditioner that both cools and heats for extra winter warmth. The new units, which can be installed in windows, are available in 1 and ¾ hp sizes.

KALAMAZOO STOVE & FURNACE PLANS TO LIQUIDATE

Directors of the Kalamazoo Stove & Furnace Co. have voted to liquidate the 50-year old firm, Arthur L. Blakeslee, president, has announced. The proposal will be submitted to the stockholders some time in December.

Meantime, the company, located in Kalamazoo, Mich., will retain on the payroll 100 employees engaged in

production of furnaces and armor plate.

A spokesman said the company has been gradually losing out in competition with larger manufacturers of furnaces, refrigerators, electric and gas ranges, because it does not have a complete line of such products.

The company employed 900 workers more than a year ago and at one time employed as many as 2,700.

Blakeslee said the company is solvent and would have cash assets for a possible liquidating dividend to stockholders.

PERFECTION ENGINEER ON PLANT MAINTENANCE PANEL

A. D. Buschmann, plant engineer, Perfection Stove Co., Cleveland, Ohio, is scheduled to appear on a panel discussing "Maintenance in Small Plants" at the 1953 Plant Maintenance Conference, to be held in Cleveland, January 19-22. The conference is to run concurrently with the Plant Maintenance Show.

STOVE MEN TO MEET IN CINCINNATI, DECEMBER 1-2

The winter meeting and management conference of the Institute of Cooking and Heating Appliance Manufacturers will be held at the Netherland Plaza, Cincinnati, Ohio, December 1 and 2. The tentative program for the *general sessions* is as follows:

Monday, December 1

2:00 p.m. *Management Round Table*—presided over by Walter F. Muhlbach, ICHAM president, and director of distribution and research, Florence Stove Company.
Panel members: Mason Smith, partner, A. T. Kearney & Co., consultant.
H. J. Berman, executive vice president, A. J. Lindemann & Hoverson Co.
C. P. Bersing, director of industrial relations, Norge Division, Borg-Warner Corp.
Alden P. Chester, president, Globe American Corp.
Robert N. Smith, secretary-treasurer, Temco, Inc.
Marc W. Pender, vice president in charge of sales, Magic Chef, Inc.
Pauline B. Dunckel, executive secretary, Institute of Cooking and Heating Appliance Manufacturers

Tuesday, December 2

10:00 a.m. *Sales and Merchandising Forum* — Walter F. Muhlbach, ICHAM president, moderator. Panel members include:
H. L. Clary, vice president, Norge Division, Borg-Warner Corp.
Sheldon Coleman, president, The Coleman Co.
A. B. Ritzenthaler, vice president, The Tappan Stove Co.
J. H. Rasmussen, vice president, Perfection Stove Co.
W. T. Trueblood, Jr., director of advertising and promotion, Magic Chef, Inc.
Lloyd Caley, of Geedy-Corey, Inc.
Mart Farr, of Mort Farr's, Inc.
Alex A. Greenberg, business manager, "National Furniture Review"
Frank A. Hanus, of Hughes-Peters, Inc.
H. B. Price, Jr., of Price's, Inc.

12:30 p.m. *General Luncheon*
"General Business Forecast for 1952" — by Donald Hobart, vice president and director of research, Curtis Publishing Company.

7:30 p.m. *Annual Banquet*

NOTE: Meetings on *Monday morning* will include the Board of Trustees, the Marketing Committee, and the Oil Division Technical Section. The Solid Fuels Division and the Kerosene Stove Division will hold separate luncheons.
Meetings on *Tuesday afternoon* will include the Electric Range Division, the Gas and Combination Range Division, the Gas Space Heater and Floor Furnace Division, and the Oil Division.
On *Wednesday morning*, a "Top Management Conference" will feature a nationally prominent banker and economist. Attendance is limited to one representative of each active ICHAM member company.

MULLINS APPOINTS MCKEE ASST. WORKS MANAGER

Mullins Manufacturing Corp. has announced the appointment of Harold L. McKee as assistant works manager of its Warren, Ohio, plant. Formerly director of scheduling and planning, McKee took over his new position as assistant to J. P. Wylam, works manager, with 20 years of service with Mullins.

DEEPFREEZE MAY ENTER ROOM COOLER FIELD LATE IN '53

Ben G. Sanderson, general sales manager, Deepfreeze Appliance Division, Motor Products Corp., North Chicago, Ill., has announced that Deepfreeze will enter the air conditioning market on a broad scale, possibly before the end of 1953 and certainly during the following year.

"We assigned the design of a large capacity air conditioning unit to our engineering staff early in 1951," Sanderson disclosed. He added that hand-made models have been subjected to about ten months of careful work, including exhaustive breakdown and fatigue tests. "They have satisfied us completely," he added.

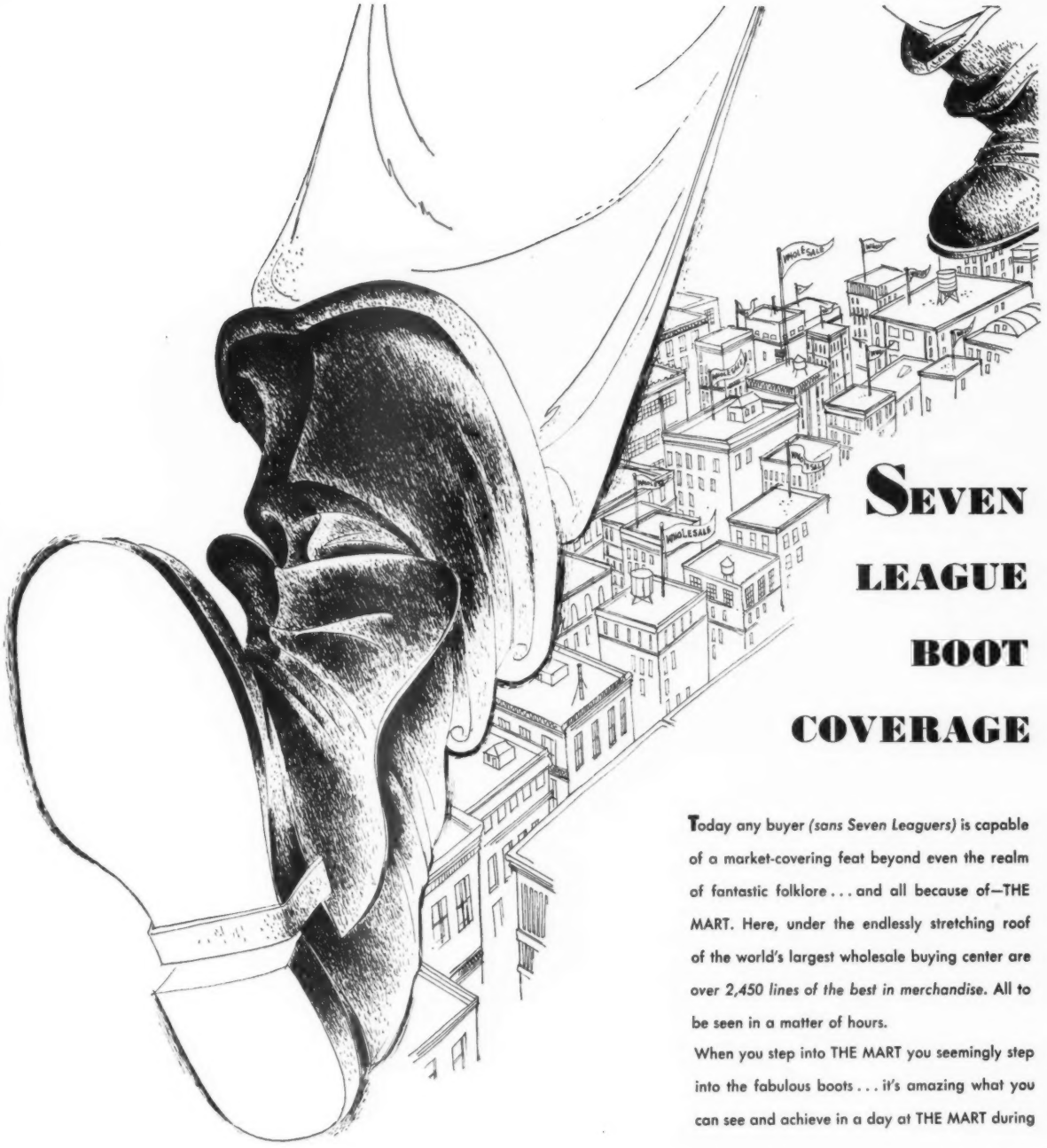
APEX QUARTER PROFIT UP 100% OVER YEAR AGO

Sales of Apex Electrical Manufacturing Co., Cleveland, for the quarter ended September 30, were more than double those of the like period in 1951, it was announced by C. G. Frantz, president.

MAGIC CHEF SALES RUNNING AT NEW HIGH

M. W. Pender, vice president of sales, Magic Chef, Inc., has announced that great sales strides have been made in all phases of the business since the company's name was changed to Magic Chef, Inc.

It is anticipated that 1952 will



SEVEN LEAGUE BOOT COVERAGE

Today any buyer *(sans Seven Leaguers)* is capable of a market-covering feat beyond even the realm of fantastic folklore . . . and all because of—THE MART. Here, under the endlessly stretching roof of the world's largest wholesale buying center are *over 2,450 lines of the best in merchandise.* All to be seen in a matter of hours.

When you step into THE MART you seemingly step into the fabulous boots . . . it's amazing what you can see and achieve in a day at THE MART during

THE INTERNATIONAL HOME FURNISHING MARKET

JANUARY 5th to 16th, 1953!

Available to buyers—THE MART'S Free Bus Service—Buses from all loop hotels to The Mart every ten minutes from 7:30 a.m. 'til 10 a.m. Return schedule from 4 p.m. to 6 p.m. And twice-an-hour-during-the-day bus service between The Mart and Furniture Mart.



MARKET FACTS—The first and only book of its kind. A mountain of excellent material on the Home Furnishings field. A limited edition—order today, $3.50. Write Office of the Building.

The Merchandise Mart

SHOW-PLACE OF AMERICA'S BEST-KNOWN BRANDS

mark the greatest sales volume in the company's history, including the war years 1941-45, when the production was devoted entirely to war work. Sales for the first nine months of 1952 are better than 35% over 1951.

Sales in the newly-established home heater department show almost a 100% increase since 1949.

SPRAY FINISHING ASSN. ELECTS NEW OFFICERS

The National Spray Painting and Finishing Equipment Association was reactivated and reorganized recently at a series of meetings in Chicago. The initial session was attended by sixteen representatives of leading companies in the industry.

A summary of the Association's activities since its founding in 1924 was given by Warren Beach, vice president, Eclipse Air Brush Company. Members unanimously adopted a resolution to accept associate members from companies in related types of finishing equipment manufacture, such as exhaust equipment, pumps and heaters.

Officers elected include: president, Reginald B. Hiley, president of Black Mfg. Co.; vice president, Alan F. Sharpe, president of Sharpe Mfg. Co.; treasurer, T. L. McCorkle, M & E Mfg. Company. Members of the executive committee in addition to the officers are William Starbuck, sales manager of Kellogg Division of American Brake Shoe Co., and Frank R. Pitt, secretary of The DeVilbiss Company.

Other companies represented at the sessions included: Binks Mfg. Co., Campbell-Hausfeld Co., Decora Mfg. Co., Electric Sprayit Co., and Paasche Mfg. Co.

Frank Pitt, acting secretary, reported that the next scheduled meeting of the group will be January 21, 1953, in Chicago. At that time reports will be presented by the various committees as to how the spray finishing industry can be further serviced to finishing processes. There will also be recommendations made concerning a permanent location for offices and executive staff personnel.

FREEZER SALES CONTINUE UP

Sales of home and farm freezers by 25 firms reporting to the National Electrical Manufacturers Association for the first 8 months of this year were 2% ahead of comparable volume in 1951. The NEMA firms sold 534,325 units in the 1952 period compared with 523,324 for the same period last year.

HOTPOINT ADDS DEHUMIDIFIER, ROOM COOLER TO '53 LINE

In introducing new 1953 models of major home appliance to distributors, John F. McDaniel, vice president of marketing, Hotpoint Company, announced the company is adding a new portable dehumidifier and a room air conditioner.

KELVINATOR ADDS KITCHEN CABINETS TO '53 LINE

New appliances in the 1953 line of Nash-Kelvinator Corp. will include a full line of kitchen cabinets and a room air conditioner, in addition to new models of major home appliances.

MERCHANDISE MART OFFICES IN NEW PERMANENT QUARTERS

The permanent headquarters of the office of the building, The Merchandise Mart, Chicago, are now located

Vacuum Cleaner Mfrs. Assn.—*annual meeting was held recently in Hot Springs, Va. Among those in attendance were, left to right: Foursome consisting of T. C. Butz, Birtman; Joseph S. Hoover, Hoover; John A. Kemper, Scott & Fetzer; and Dewey M. Dow, Airway. Twosome is Mrs. Joseph Hoover and Mr. Hoover, Assn. golf champion.*





in Room 830. All departments, except the merchandising service bureau, have been moved to the new space. Merchandising service will remain in Room 1524A.

Buyer registration and information, sales promotion, the news bureau and guided tours departments, which have temporarily occupied separate spaces in the building during the past few months, have been moved to 830 together with the executive, operating, accounting and sales departments of the management offices.

STEEL KITCHEN CABINET ASSN. PLANS ANNUAL MEETING

The Steel Kitchen Cabinet Manufacturers Association will hold its second annual meeting at the Cleveland Hotel, Cleveland, Ohio, on Wednesday, December 3. The Association is just completing its first full year of active service to manufacturers and users of steel kitchen cabinets.

Starting with 17 companies, the present membership consists of 22 producers of steel kitchen cabinets. During the past year there was put into practice the plan of quarterly Association meetings.

A Sales Promotion & Advertising Committee, looking toward establishing a program of sound future activity under the chairmanship of Chas. E. Howes, manager of sales, Steel Equipment Division, Berger Manufacturing Division, Republic Steel Corporation, is now effective.

A Packaging, Transportation & Traffic Committee, under the chairmanship of A. C. Deimel, general traffic manager, Mullins Manufacturing Corporation, has accomplished helpful results on the important subject of transportation costs and related subjects, one of which is participation in the National Safe Transit Program. Gilbert May, traffic manager, American Kitchens Division, Avco Mfg. Corporation, has been acting as Steel Kitchen Cabinet Association representative on the National Safe Transit Committee.

Charles Morrow, of Mullins Manufacturing Corporation, and his Trade Statistics Committee have accomplished some very worthwhile results for the industry.

Another committee has been giving attention to technical subjects under the chairmanship of R. W. Sponholtz, of Geneva Modern Kitchens.

F. E. O'Connor, also of Geneva Modern Kitchens, has headed up the Committee on Membership, which has accomplished tangible results, as evidenced by the increase in the number of affiliated companies. It is estimated that over 95% of industry capacity is now represented in the Association.

The board of directors of the Association will meet on Tuesday, December 2, to evaluate progress made in various directions and study activities for the new year. These recommendations will be considered at the annual meeting's general session on Wednesday. Also to receive attention is the election of officers and two directors to replace an equal number whose terms expire.

G-E "APPLIANCE TRAIN" TOURING THE COUNTRY

General Electric Company has announced that a special "appliance train" is being used to tour the country to display the company's 1953 line of home appliances to distributors and dealers.

At its first stop in Chicago, Herbert Warren, manager of distribution, for G-E's major appliance division, predicted that the volume of home appliance sales next year will top the 1953 total by 16 per cent. Inventories in the hands of dealers and distributors are at the lowest in several years, he stated.

WESTINGHOUSE KITCHEN SHOWN AT BERLIN INTL. TRADE FAIR

For exhibit at overseas trade fairs, Westinghouse has supplied an entire modern electric kitchen and other home appliances to the Mutual Security Agency of the U. S. Department of Commerce. Purpose of the exhibit is to carry the story of the American way of life to the free peoples of the world.

Success of the initial showing, held recently at the International Trade Fair, in Berlin, has resulted in plans for possible display of the appliances in actual American-type home settings at future fairs in Milan, Stockholm, Copenhagen, Brussels, Barcelona, Alexandria, New Delhi, Bombay, Singapore, Calcutta, and Rio de Janiero, announced C. E. Bitzer, manager of appliances, Westinghouse Electric International Co.

DELTA DEVELOPS GUN-TYPE OIL-FIRED WARM AIR FURNACE

Delta Heating Corp., Trenton, N. J., has developed a new low-cost floor furnace fired with a gun-type flanged oil burner. The manufacturer claims this new furnace operates quieter than their present vaporizing-type floor furnace.

HUSSMANN TO INCREASE AIRCRAFT DIV. FACILITIES

Hussmann Refrigerator Co., St. Louis, has begun construction on a new building to increase facilities of its Aircraft Division which is now producing major air frame assemblies for the Army and Navy. The new building, with 128,000 sq. ft. of space, was required to permit Hussmann to handle additional aircraft production of contracts just received.

CRIBBEN & SEXTON OFFERS RANGES ON A RENTAL BASIS

Cribben & Sexton Co., Chicago, is offering Universal gas ranges on a rental basis to multiple apartment house owners. First test of the Universal rent-a-range plan will be limited to the Chicago area, and will be available only to owners or managers of buildings having 24 or more kitchen units.

PEARSON APPOINTED MGR. OF EKCO MASSILLON PLANT

Ekco Products Company has appointed John E. Pearson manager of its Massillon, Ohio, plant, it was announced by Benjamin A. Ragir, president of the housewares manufacturing firm.

Pearson, formerly general superintendent of the Massillon plant, has




Faith . . .



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Chicago stampers—*recently heard panel discussion of "press brakes" by Ed Kaster, Mel Verson and Florian Duginski, all of Verson Allsteel Press Co. In background at microphone is Phil Kaiser, chairman, Chicago District of the Pressed Metal Institute.*

been with Ekco since 1946. Before that he was with Chase Brass & Copper Co., Waterbury, Conn. for 12 years.

As plant manager, Pearson will work under the direction of William J. Gazey, Ekco's vice president in charge of manufacturing for the Ohio area which includes the firm's plants at Byesville and Canton, as well as Massillon. Gazey formerly managed the Massillon plant in addition to his other duties.

The Ekco Massillon factory produces stainless-steel and copper-bottom kitchen utensils. In addition, it has two large production lines making artillery shell cases for the U. S. Ordnance Department.

TENNESSEE STOVE APT. RANGE HAS FOUR SURFACE UNITS

A new apartment-size Modern Maid electric range, manufactured by Tennessee Stove Works, Chattanooga, has a 20 x 24 inch cooking top, featuring four surface heating units.

NEW EXPOSITION ON BASIC MATERIALS DEVELOPMENTS

The first Exposition of Basic Materials for Industry will be held at the Grand Central Palace, New York City, June 15-19, 1953. Clapp & Poliak, exposition management, has announced that the concurrent Conference on Materials will reach "into every critical phase of product design, development and engineering."

TRANE BUILDING $1 MILLION RESEARCH UNIT AT LA CROSSE

The Trane Company, manufacturer of air conditioning, heating and ventilating equipment, is building a new $1,000,000 "House of Weather Magic" at its LaCrosse, Wisconsin, plant.

The testing laboratory will be the largest of its type in the world and will triple Trane's research facilities, according to the announcement. It will include research facilities for duplicating temperature, humidity, pressure and air movement conditions anywhere on the earth. Part of the facility will be placed in service next summer, with major equipment to be installed throughout 1953 and 1954.

ROEHM HEADS KAWNEER RESEARCH AND DEVELOPMENT

Jack M. Roehm has been appointed director of research and development of The Kawneer Company, Niles, Michigan, it was announced by Lawrence J. Plym, president.

Roehm will be responsible for the research and development of all Kawneer products manufactured in factories located in Niles; Lexington, Frankfort and Cynthiana, Kentucky; Berkeley and Los Angeles, California. He formerly held a similar position with Pullman-Standard Car Mfg. Co., Hammond, Indiana.

FINISH "PUNCH PRESS" ARTICLE DIGESTED FOR SECURITY AGENCY

An article by Gilbert C. Close, *finish* western editor, has been digested by the Office of Technical Services, U. S. Department of Commerce, for use by the Mutual Security Agency. The article, "Improving Punch Press Production", appeared in the July 1952 issue.

BETTINGER ACQUIRES VEOS TILE, BUYS REHOBOTH PLANT

Porcelain Enamel Products Corp., a division of Bettinger Corporation,

Midwest enamelers—*heard high density grinding balls discussed at first fall meeting in Chicago. At speaker's table, left to right: Wm. Burriss, Industrial Publications; Mel Gibbs, Inland Steel; Geo. Zink, A. O. Smith; Geo. Tuttle, Benjamin Electric, president of Midwest Enamelers Club; Ben Landes (guest speaker), Landes, Zachary & Peterson; Rudyard Porter, U. S. Steel; and A. B. Friedmann, Chicago Vitreous.*

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Heavy oil films and solid dirt are removed from steel almost instantly.

Tapped holes, slots, embossments, corners, crevices, sculptured patterns are completely cleaned.

Insures smoother, brighter, more adherent electrodeposits.

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442 ELM STREET
NEW HAVEN, CONNECTICUT

METAL FINISHING PROCESSES

ELECTROPLATING CHEMICALS

has acquired the Veos porcelain-on-steel wall tile manufacturing process from Whirlpool Corporation, it was announced by Robert A. Weaver, Jr., Bettinger president.

The Veos production lines have been moved from Clyde, Ohio, to a plant in Rehoboth, Mass., which Bettinger acquired recently from Rehoboth Porcelain Enamel Co.

The Veos purchase marks the second important expansion project of Bettinger within the past five months. Last July the company acquired Toledo Porcelain Enamel Products Co., a jobbing firm in Toledo, Ohio.

YORK NAMES TERHORST GRANTLEY WORKS MANAGER

Stewart E. Lauer, president, York Corporation, has announced that P. B. Terhorst, formerly superintendent, has been appointed works manager of the firm's Grantley, Pa., plant.

Assisting Therhorst in new assignments will be P. E. Kyburg, production manager; D. G. Meckley, manager of inspection and quality control; C. F. Stephenson, chief industrial engineer; and R. W. Noel, plant engineer.

ARMCO CHAIRMAN IN EUROPE ON U. S. ECONOMIC MISSION

Charles R. Hook, Armco chairman, has been appointed by Secretary of Commerce Charles Sawyer as a member of a government economic mission to study industrial problems in several European countries. Hook is one of two businessmen selected by Secretary Sawyer to serve on the mission. The remainder of the sixteen man mission is composed of government representatives. The mission sailed for Europe on October 31 on the new American liner, "The United States."

COMPLEX LUX CLOCK PARTS MADE OF POWDER METAL

The Lux Clock Manufacturing Co., Waterbury Conn., is making small clock parts, such as gears, on a battery of powder metal presses. Savings are reported as high as 50 per cent compared with previous manufacturing methods.

Since Lux began using powder metal presses several years ago, stated R. H. Chirgwin, general sales manager, "considerable savings have been realized, both in manpower and cost of materials."

GOODELL TO CATALYTIC

The appointment of Paul H. Goodell as sales manager of Catalytic Combustion Corp., Detroit, was announced by R. J. Ruff, president. Goodell was formerly associated with Jensen Specialties, Inc., and the Trumbull Electric Department of General Electric Co.

PARKER RUST PROOF OPENS NEW PLANT IN NEW JERSEY

A new manufacturing plant was opened in November by Parker Rust Proof Co., at Mountain View, New Jersey. Products for the surface treatment of metals will be produced in the new plant.

Moe Light!

"The World's Largest Manufacturer of Residential Lighting" uses

RANSBURG NO. 2 PROCESS

"The World's Finest Spray Finishing Equipment"

Moe Light, Inc. is the first manufacturer of lighting fixtures to install the revolutionary Ransburg No. 2 Process spray painting unit. Paint mileage was *more than doubled* over the former process.

On customers' production lines all over the country, the RANSBURG NO. 2 PROCESS is setting new quality standards . . . increasing production . . . and at the same time, saving MANPOWER, MONEY and MATERIALS.

On most production lines, the RANSBURG NO. 2 PROCESS will give 25% to 75% more pieces per gallon than ANY other spray finishing system. The increase is much greater over conventional hand spray because there's NO overspray to be exhausted with the RANSBURG NO. 2 PROCESS.

Write for a copy of our brochure containing data on the Ransburg No. 2 Process and information on various installations.

RANSBURG ELECTRO-COATING CORP.

Indianapolis 7, Indiana

RANSBURG

Electrostatic Painting Processes

Establishment of the Mountain View plant completes an expansion of the manufacturing facilities of Parker Rust Proof. The original plant, at Morenci, Michigan, has been doubled in size and production capacity. The company also has plants in Maywood, Calif., and Windsor, Ontario.

BENDIX APPOINTS JONES DIRECTOR OF ENGINEERING

John Paul Jones, assistant director of engineering, has been named director of engineering, Bendix Home Appliances, a division of Avco Mfg. Corp., it was announced by Judson S. Sayre, Bendix general manager and Avco vice president.

At the same time it was announced that Donald M. Stratheran, chief engineer, is now assistant director of engineering. Wallace F. Oliver, previous director, has moved to Florida, but will be retained by Bendix as engineering consultant.

STEEL FOUNDERS SOCIETY WINS NATIONAL AWARD

Steel Founders Society of America, 50-year-old technical organization serving the steel castings industry, has been cited for national recognition as winner of the 1952 Award of Merit conferred by the American Trade Association Executives. The presentation was made at the annual ATAE meeting in Toronto.

SHERWIN-WILLIAMS NAMES MENZ TO HEAD FACTORY OPERATIONS

George A. Menz, since 1937 general superintendent of The Sherwin-Williams Co. Cleveland factory, has been named general superintendent of operations for the paint manufacturing firm.

A native of Cincinnati, Menz went to Cleveland as office superintendent at the Sherwin-Williams Canal Road plant. Prior to becoming general superintendent of this facility, he filled various posts that included supervision of factory personnel and direction of the technical service department. In his new position he will supervise all Sherwin-Williams factories in the United States under Victor Mills, general manager of paint, varnish and lacquer manufacturing operations.

TAPPAN APPOINTS FETZER WESTERN REGIONAL MANAGER

Rodger E. Fetzer has been appointed western regional manager of The Tappan Stove Company, A. B. Ritzenthaler, vice president of sales, announced. Fetzer joined the Tappan sales organization in July, 1950, after seven years as merchandising manager of the appliance division of Sears, Roebuck & Co.

HEADS METAL TREATING INST.

A. M. Cox, president, Pittsburgh Commercial Heat Treating Co., Pittsburgh, Pa., was elected president of the Metal Treating Institute at its annual meeting in Philadelphia. Long an active participant in the Institute.

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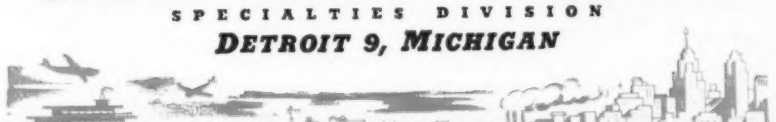
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GOT A PROBLEM? Our field engineers and home office Research and Development department will be happy to work with you with no obligation, of course.

DEFENSE—Producers and Suppliers of Ammunition Components for U. S. Army Ordnance. . . . Valves and Fittings for U. S. Navy, U. S. Army Air Force, U. S. Maritime Commission and other agencies demanding *Top Brass*, precision-made components.

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AT YOUR SERVICE IN THE NATIONAL EMERGENCY

Cox is also president of J. P. Devine Mfg. Co., and Pittsburgh Wire Form & Mfg. Co.

SUNDSTRAND UPS BUELL

T. B. Buell, formerly sales manager, machine tool division, Sunstrand Machine Tool Co., Rockford, has been promoted to general sales manager in charge of over-all sales policies. Harry Leber, formerly manager of direct sales, succeeds Buell.

WESTINGHOUSE NAMES CREECH MANAGER OF MARKETING

J. H. Ashbaugh, vice president, electric appliance division, Westinghouse Electric Corp., has announced that W. B. Creech, formerly assistant sales manager at Mansfield, Ohio, is now manager of marketing, and that P. Y. Danley, formerly assistant sales manager at East Springfield, Mass., is now manager of Springfield products.

Both men will report directly to Ashbaugh, as will R. J. Sargent, manager of major appliances, and R. M. Oliver, manager of appliance specialties.

Other members of Ashbaugh's staff now include: Reese Mills, assistant general division manager; C. L. Van Derau, general works manager; E. K. Clark, manager of engineering at Mansfield; and C. B. Dick, works manager, and Milton Kalischer, manager of engineering at Springfield.

TO EXHIBIT METAL WORKING MACHINES IN ROCHESTER

Follansbee Metal Warehouses, division of Follansbee Steel Corp., will give over part of its Rochester, N. Y., warehouse for an exhibit of sheet metal working machines during the first week of December. The machines include foot shears, power tables, bar folders, and squaring shears. New plate burning equipment, coil slitting units, and shears will be shown in actual operation. Raymond Bolton will be in charge of the exhibit.

CLAWSON SAILS FOR EUROPE

This snapshot shows Mr. and Mrs. C. D. Clawson just before sailing time



for the S. S. America, on which Mr. Clawson sailed for an extensive business tour of European countries. Clawson is president of Ferro Corporation, with branch plants located in principal countries of the world.

Have YOU Tried W-A1 METAL CLEANER

for immersion cleaning prior to porcelain enameling? It's a specification material that has proved its worth in many enameling plants.

Same Quality and Same Price for over 4 years

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V. B. PUNDERSON COMPANY

402 SWETLAND BUILDING CLEVELAND 15, OHIO

***A Hamilton dryer** — ordered via Korea — helped brighten the lives of Sgt. Ray Warchol's parents on their 38th wedding anniversary. While enjoying a few hours rest in his Korean fox hole, Sergeant Warchol was thumbing through a magazine distributed to troops when his eyes caught an advertisement of an automatic clothes dryer made by Hamilton Mfg. Co. The sergeant dispatched a letter to Hamilton inquiring about prices so he could arrange a money order. In Two Rivers, Wis., Hamilton officials were so impressed by the 23-year old soldier's thoughtfulness for his mother, that they presented the dryer to his mother, in Chicago, without cost.*



Water control role in finishing aluminum

→ *from Page 32*

necessary to guard against any contamination caused by residual surface impurities. This is accomplished through the use of de-ionized water in the final rinse and seal tanks of our anodizing systems. Also, after the evaporators have been anodized they are flushed out by circulating demineralized water through the tubing and then blown out with filtered air. This is done in a conveyorized line just prior to passing through the dehydrating oven. This operation is extremely important, as the interior of the evaporator tubing must be free of any contamination. If this is not accomplished, failure could easily result in the refrigeration system.

Conclusion

From our experience, the use of demineralized water has resulted in an investment well spent. The use of water control has cut rejections and has also enabled us to produce higher quality finished products.

Laundry conference

→ *from Page 40*

tric appliance division, Westinghouse Electric Corp.

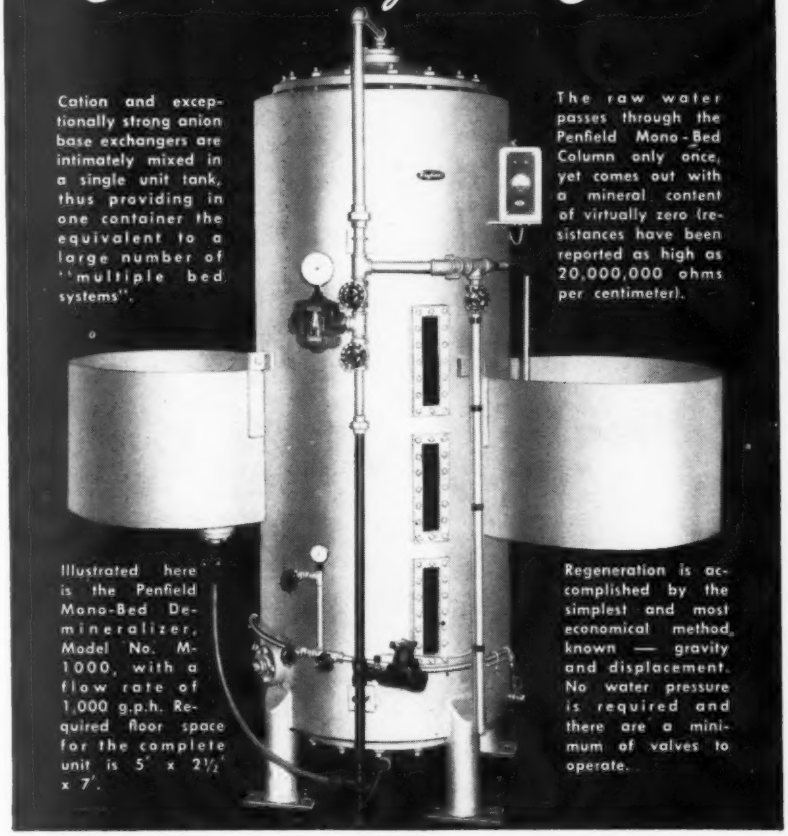
"It isn't always the customer who misunderstands, misinterprets," said Baxter, "we do it ourselves. . . . . Reliable industry surveys show that unnecessary complaints account for 30 per cent of all service calls. The greatest single factor involved is the need for education at four levels: sales, installation, post-sales demonstration and service."

David Hays, AHLMA engineering consultant, stated that "acceptance of the ironer is far below what it is entitled to by its merits. Dryer sales are growing at a phenomenal rate, and it is probably too early in its history to make predictions about its future."

Mrs. Elizabeth Sweeney Herbert, home appliance editor, *McCall's*, and president, American Home Economics Association, summarized the Conference at the end of the closing session.

Penfield MONO-BED DEMINERALIZER

Cuts Deionization Costs



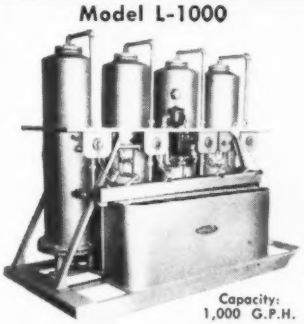
Cation and exceptionally strong anion base exchangers are intimately mixed in a single unit tank, thus providing in one container the equivalent to a large number of "multiple bed systems".

The raw water passes through the Penfield Mono-Bed Column only once, yet comes out with a mineral content of virtually zero (resistances have been reported as high as 20,000,000 ohms per centimeter).

Illustrated here is the Penfield Mono-Bed Demineralizer, Model No. M-1000, with a flow rate of 1,000 g.p.h. Required floor space for the complete unit is 5' x 2½' x 7'.

Regeneration is accomplished by the simplest and most economical method, known — gravity and displacement. No water pressure is required and there are a minimum of valves to operate.

Model L-1000



Capacity: 1,000 G.P.H.

Over the past ten years, Penfield has built more four column demineralizers than any other manufacturing concern. In comparison to distilled water costs, Penfield Industrial Demineralizers provide savings as high as 85% and in one reported instance cut costs 98%. No heat or steam power is ever required and units are ready for immediate operation on arrival at site. Send for "Penfield Pays" folio giving specifications of all Penfield Demineralizing units — single, double and four column.

AVAILABLE IN FLOW RATES FROM 200 TO 5,000 G.P.H. AND UP

The Penfield Mono-Bed Demineralizer operates upon the most efficient deionizing technique known . . . is ideal for a large variety of processing and other operations — including power plants, mirror plating, electronic tubes, photographic finishing, *and wherever exceptionally high purity, mineral-free water is required.*

Write today, describing *your* water treating needs.

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THESE ARE THE PEOPLE WHO SERVE FINISH READERS

finish has established an organization to give its readers authentic technical and practical information on metal products manufacturing, "from raw material to finished product" — plus a Safe Transit section for safe delivery.

While much of the feature editorial material is prepared "on the job," by key personnel in manufacturing plants, the editorial staff has the background and experience to judge its importance to *finish* readers.

Original articles by *finish* editors and consultants on subjects on fabrication, metal preparation, metal finishing (ceramic and organic), assembly, quality control, materials handling, and packaging and shipping keep readers up to date on the latest in approved plant practice. The *finish* news section is must reading for busy executives and plant men.

Dana Chase

Editor & Publisher

. . . started his business career with a manufacturer of household heating appliances in 1926. For 27 years he has served with, sold to, and edited for appliance and metal products manufacturers. A graduate of Ohio University, he took graduate work in business administration at Wharton, University of Pennsylvania.

Matt Heuertz

Associate Editor and Manager of Magazine Production

. . . has a background of construction work with a large steel company followed by over nine years of editorial and editing work, including photography. A graduate of University of Kansas, School of Journalism. He came to *finish* from the International Harvester Company.

A. O. Bernhard

Business Manager and Customer Service

. . . has had 13 years experience in working with and serving the appliance and metal products field — six years with a leading manufacturer of metal finishes and seven years with *finish*.

Cora Scheuer

Executive Secretary

. . . has had a number of years of experience in secretarial work. Prior to joining the *finish* organization, she was with The Dearborn Company and Standard Radio. Master Secretarial School, Chicago.

Dana Chase, Jr.

Sales and Customer Service

. . . is a graduate of Ohio University school of business administration. From his position with *finish*, he was called as a reserve officer for service in Korea, where he is now serving.

Betty Turnquist

Circulation Manager

. . . came to *finish* as circulation manager following editorial and circulation experience with Esquire Magazine and Morton Radio Productions. She is a graduate of the University of Chicago.

Associate Editors and Technical Consultants

James M. Leake

President, The Leake Stamping Company

. . . a recognized authority on problems pertaining to the design and production of metal stampings. Member of leading technical groups for both civilian and defense production.

Gilbert C. Close

Western Editor

. . . formerly with engineering department, Douglas Aircraft, has been featured by the country's leading technical publications on engineering and manufacturing subjects.

Ralph F. Bisbee

Quality Control Manager
Westinghouse Electric Corp.
(Home Appliance Division)

. . . serves *finish* on subjects pertaining to quality control, materials handling, and packaging and shipping. General Chairman of the National Safe Transit Committee.

Prof. A. I. Andrews

Head of Dept. of Ceramic Engineering
University of Illinois

. . . . has served as associate editor and technical consultant for *finish* since its inception. A recognized authority on ceramic and high temperature finishes.

Prof. L. L. Carrick

Department of Chemical and Metallurgical Engineering,
University of Michigan

. . . serves *finish* in connection with subjects in the field of industrial (organic) finishes and plating and metal preparation.

Prof. R. M. King

Department of Ceramic Engineering
Ohio State University

. . . has served *finish* readers for nine years. His service is on porcelain enamel and ceramic finishes as applied to fabricated metal products.

THE ONLY INDUSTRIAL TRADE MAGAZINE DESIGNED SPECIFICALLY

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CARBORUNDUM UPS IMIRIE

It is reported that Joseph S. Imirie has been appointed assistant to the president, The Carborundum Company, Niagara Falls, N. Y.

GENERAL CONTROLS OPENS NEW PLANT IN SKOKIE, ILL.

In a new 60,000 sq. ft. plant in Skokie, Ill., General Controls Co. is readying facilities for the manufacture of automatic controls for pressure, temperature, level, and flow for the home, and industrial use.

Fred E. Weldon, sales manager, will be in charge of the new plant. Douglas S. Sterner, manager of refrigeration sales, also will make his headquarters in the plant.

GEORGE KNECHT DIES

George G. Knecht, 68, district manager, Hanson-Van Winkle-Munning Co., died October 8, in New Haven, Conn. Knecht spent his entire business life in the electroplating industry. He was a past officer of the American Electroplaters Society.

THUR SCHMIDT BUYS HART PRESSED STEEL

Thur Schmidt, who recently purchased Hart Pressed Steel Corp., Elkhart, Indiana, has announced that the company's new name is Hart Metal Products Corp. He said that the company will continue to make metal parts for the automotive and aircraft industries. The company is also engaged in filling several defense subcontracts, including parts for the B-47 jet bomber.



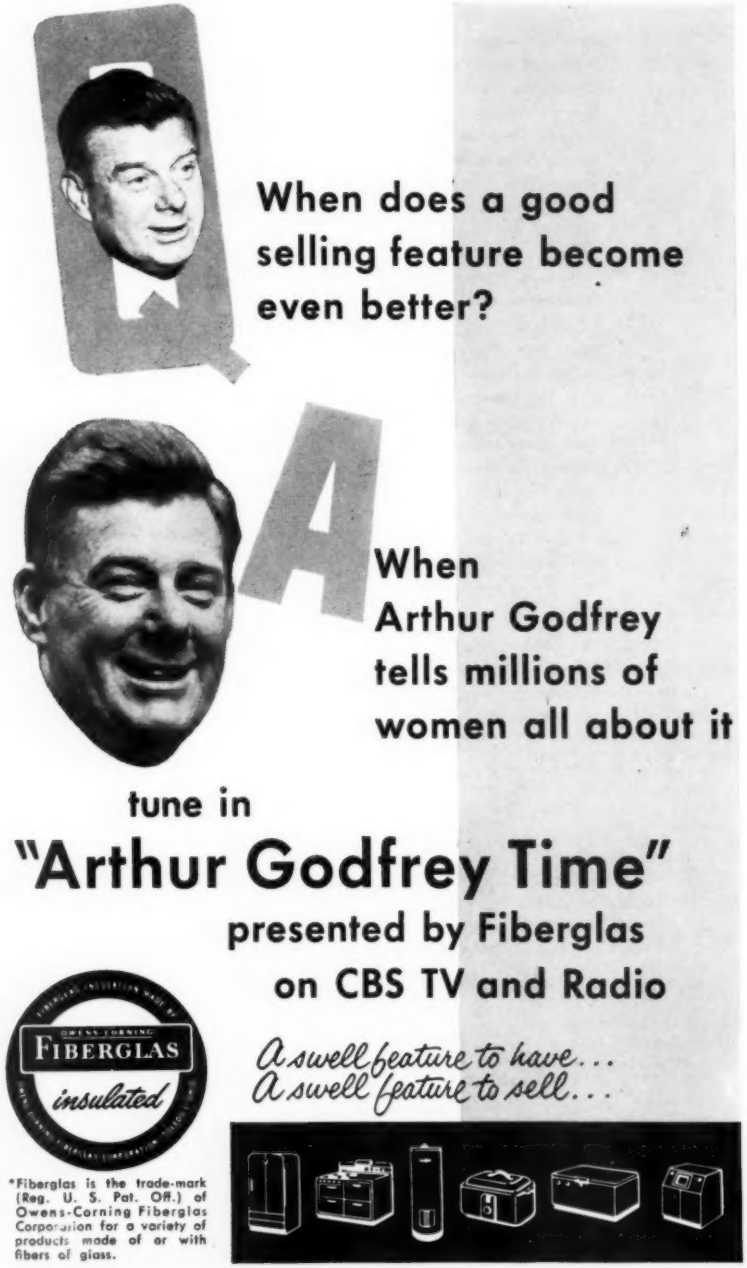
Previously, Schmidt had been director of research and development and assistant to the president, Ingersoll Products Division, Borg-Warner Corp., Chicago.

U. OF I. CERAMICS SENIORS TOUR INDUSTRIES

Ten seniors and two faculty members of the Department of Ceramic Engineering, University of Illinois, recently took a four-day inspection trip of industries in Illinois and Indiana. Among the plants toured were Hotpoint Company, Chicago; Chicago Vitreous Enamel Product Co., Cicero; and U. S. Steel Co., Gary.

PYRAMID MOULDINGS MERGES WITH WESTERN MOULDINGS

Pyramid Mouldings Inc., of Chicago, has merged with Western Mouldings & Stampings Inc., of Ontario, Calif., it was announced by I.



L. Reed, president of the parent company, who added that the new subsidiary has been re-named Western Mouldings Inc., Division of Pyramid Mouldings Inc.

The four-year-old West Coast firm is equipped to roll, bend and form mouldings in all metals. It will continue to be managed by Howard Burleson and his associates.

INDUSTRIAL FILTER NAMES LEDFORD DIRECTOR OF SALES

R. F. (Ray) Ledford has been appointed director of sales and research, Industrial Filter & Pump Mfg. Co.,



Chicago, according to an announcement by Ralph E. Liedberg, vice president and general manager.

Ledford was formerly superintendent of finishing, Sunbeam Corp., and prior to that sales engineer, Hanson-Van Winkle-Munning Co. He is president of the Chicago branch and member of the research committee of the American Electroplaters Society, and also a member of the Electrochemical Society and the American Society for Testing materials.

SEIDELHUBER SEATTLE STEEL MILL IN OPERATION

A new industry was established early in November in Seattle, Washington, when the new Seidelhuber Steel Rolling Mill Corp. turned out its first sheet steel.

The $3 million project was begun more than a year ago, with initial funds provided by the Seidelhuber family, which has owned Seidelhuber Iron & Bronze Works since 1906. The rolling mill company will be operated as a separate company, with Frank J. Seidelhuber, Jr. as president. His father is president of the parent firm.

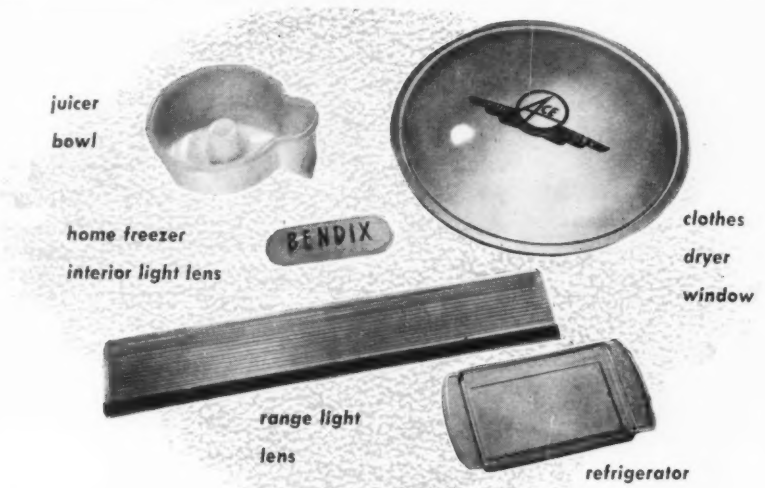
U.S.MACHINE, STEWART-WARNER MERGER UNDER CONSIDERATION

A proposed consolidation of U. S. Machine Corp., of Lebanon, Ind., with Stewart-Warner Corp., of Chicago, was scheduled for consideration by U. S. Machine stockholders on November 25.

NEW RCA ESTATE APPLIANCE CORP. ELECTS OFFICERS

Election of Cecil M. Dunn, as president, and Robert A. Seidel, as chairman of the new RCA Estate Appliance Corp., was announced by Frank M. Folson, president, Radio Corporation of America.

Dunn was formerly president of Estate, and Seidel a vice president of



Lancaster Glass

adds that vital sales appeal!

Lancaster glass parts will give your appliance the sparkle and utility which lead to more sales. Lancaster glass means *quality*. And it boosts appliance sales appeal in two ways. First — through more attractive appearance; second — through increased utility. In other words, Lancaster glass helps sell your appliance in the showroom — and then continues selling in the home.

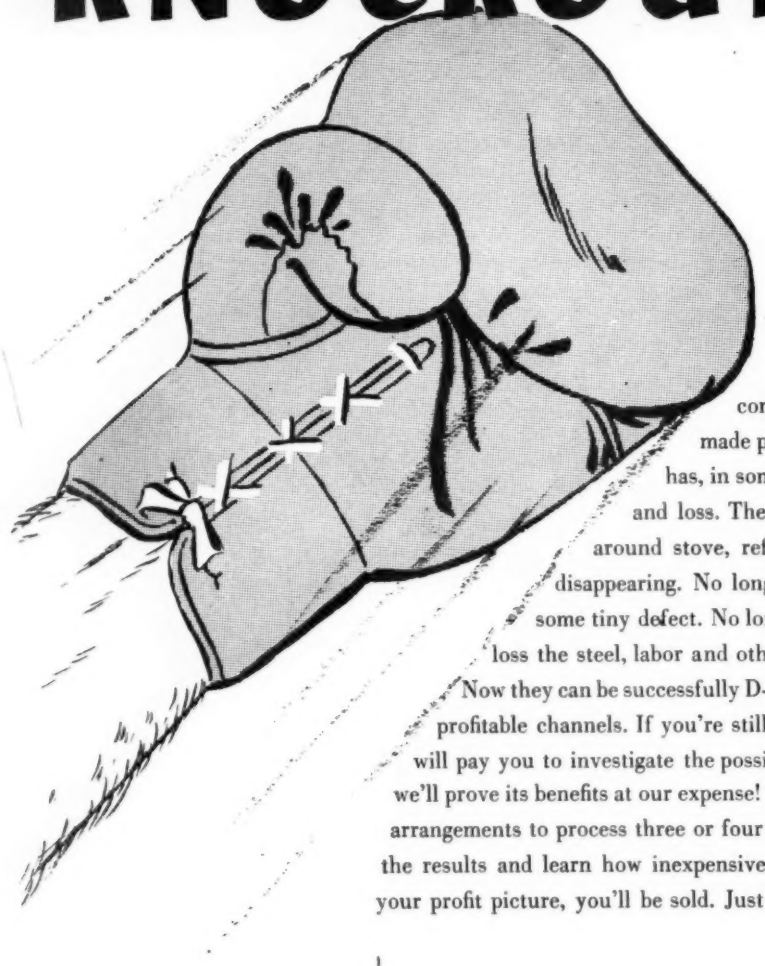
The piece you need for that extra selling punch may be a window for a clothes dryer . . . a lens for a freezer light . . . a special refrigerator dish . . . visual controls, dials, or top-of-stove lighting for ranges . . . an emblem or trademark . . . or any other glass part for a home appliance. All add beauty . . . make the housewife's work a little easier, a little simpler.

Contact us today. We'll be glad to design *any* glass part for you . . . to your exact specifications.

THE *Lancaster Lens* COMPANY
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industrial glass made to your specifications

KNOCKOUT SCRAP LOSS



Scrap loss was once considered a necessary evil. But this is 1952 and now scrap loss is a thing of the past. And D-Enameling* has made it so! D-Enameling has put an entirely new complexion on the appliance business . . . has made possible the maximum utilization of steel . . . has, in some cases, meant the difference between profit and loss. The scrap pile which once was a common sight around stove, refrigerator, bath tub and sink plants is fast disappearing. No longer is it necessary to scrap parts because of some tiny defect. No longer is it necessary to write off as complete loss the steel, labor and other costs involved in making these products. Now they can be successfully D-Enameled and transferred into commercially profitable channels. If you're still suffering from a scrap pile at your plant, it will pay you to investigate the possibilities that D-Enameling offers *you*. In fact, we'll prove its benefits at our expense! Write, wire or phone us so that we can make arrangements to process three or four parts for you *NO CHARGE*. When you see the results and learn how inexpensive D-Enameling really is . . . how it may help your profit picture, you'll be sold. Just get in touch with us. Do it today . . . now!

D-ENAMELING SAVES DOLLARS
D-ENAMELING SAVES STEEL

Since October 1949, D-Enameling has saved over 15,000 tons of fabricated steel parts.

THESE INDUSTRY LEADERS KNOW FROM EXPERIENCE THAT D-ENAMELING TRANSFORMS SCRAP LOSS INTO PROFIT DOLLARS

ARROW SIGN CO. • BRIGGS MANUFACTURING COMPANY • CAPITAL AIRLINES • CHALLENGE STAMPING & PORCELAIN CO. • CLEVELAND-TENNESSEE ENAMEL COMPANY • CONLON-MOORE CORPORATION • CRIBBEN AND SEXTON COMPANY • CROWN STOVE WORKS DWYER PRODUCTS CORPORATION • ESTATE HEATROLA DIVISION • FLORENCE STOVE COMPANY, *Kankakee* **• GIBSON REFRIGERATOR COMPANY • GLOBE AMERICAN CORPORATION • GRAY & DUDLEY CO. • ICE COOLING APPLIANCE CORP. • A. J. LINDEMANN & HOVERSON COMPANY • MAGIC CHEF INC. • MALLEABLE IRON RANGE CO. • MAYTAG CO. NORGE DIVISION,** *Effingham* **• NORGE DIVISION,** *Muskegon Heights* **• PRENTISS WABERS PRODUCTS CO. • GEO. D. ROPER CORPORATION • SAMUEL STAMPING & ENAMELING CO. • A. O. SMITH CORP. • THOR CORPORATION • TYLER FIXTURE CORP.,** *Waxahachie*

*D-ENAMELING IS A PATENTED PROCESS.

New Process *D-Enameling* Corp.

Highland and New Haven Avenues • Aurora, Illinois

RCA. Other newly-elected officers include Gordon Kemp, vice president and treasurer, and Ellsworth Sims, vice president of manufacturing.

The announcement followed the purchase of Estate Stove Company, of Hamilton, Ohio, from Noma Electric Corp.

KESSLER ELECTED PRESIDENT OF TUTHILL PUMP

Harry T. Kessler has been elected president and treasurer of Tuthill Pump Co., Chicago, it was announced

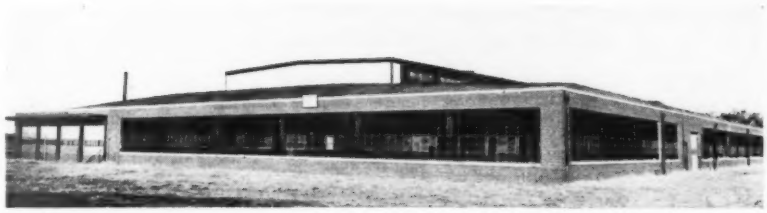


by G. B. Tuthill, formerly president and now chairman. N. G. Tuthill was elected vice president and treasurer.

Kessler had served as executive vice president since 1934. In his new position, he will direct an extensive expansion program which will introduce several new products into the Tuthill line. Among these are the new Vibro pumps for domestic washing machines and machine tools, an advanced type oil-burner pump, and a new power steering unit for the automotive industry and other industrial applications.

FERRO PROMOTES McINTYRE, KENWORTHY, BRYANT, MILLER

The appointments of Dr. Glenn H. McIntyre, as technical director, and Orville O. Kenworthy, as director of research, was announced by George W. Wallace, vice president of operations, Ferro Corporation, Cleveland, Ohio.



Admiral's expansion program *— includes this new 126,000 square foot plant built in Galesburg, Ill., for the manufacture of electric ranges and refrigerator parts. Approximately two blocks long, the building measures 180 by 700 feet, and is connected to the main refrigerator plant by a 1050-foot inter-plant conveyor system.*

In his new position, Dr. McIntyre will supervise the technical work of all branches, divisions and subsidiaries of Ferro, in addition to continuing in his present post as vice president. Prior to his new appointment, Kenworthy was assistant director of research.

Two other staff changes were also announced by Ferro. E. E. Bryant was named technical director of the porcelain enamel division, and Grant E. Miller, formerly of Ferro's sales department, was named director of enamel development, replacing Bryant.

HEADS WELDING SOCIETY

Fred L. Plummer, director of engineering, Hammond Iron Works, Warren, Pa., has been elected president of the American Welding Society.

WICKEN NAMED MANAGER OF FOOTE SUNBRIGHT DIV.

Oscar M. Wicken recently joined Foote Mineral Company as manager of the Sunbright, Virginia, Division. This new division covers the production of lithium chemicals and the quarrying of limestone.

Prior to joining Foote, Wicken was with Northwest Magnesite Company in various engineering and supervisory capacities, most recently as manager of the magnesia recovery plant at Cape May, New Jersey.

President-elect Eisenhower *— is shown with Robert A. Weaver, chairman of the board, Ferro Corporation. "Ike" is looking at Weaver's tie which has "I Like Ike" written all over it.*



Gas appliance convention held in Atlantic City

(Continued from Page 48)



Three French gas industry officials were welcomed to the GAMA exhibition by C. A. Schlegel (right), vice president, United Engineers & Constructors, Inc., Philadelphia. The exhibition was the first stop of the trio—Andre Flurer and Andre Amsler, of Paris, and R. G. Guillet, of Saarbruck, in a three-week tour of the United States under the sponsorship of the Mutual Security Administration.

every size — as well as a wide variety of colors — ranging from gigantic six-burner models capable of taking care of a small-sized army to space-saving 30-inch ranges designed for apartment living without sacrificing cooking capacity.

"All of the various manufacturers I've talked to," Miss Wagner said, "stress the fact that they now make ranges in such a wide variety of sizes that each housewife can order one that will be neither too tall nor too small — just individually tailored to her own physical requirements."

This includes, she added, gas ranges that come in separate units so that the oven can be separated from the burners for better arrangement in the kitchen.

Additional features include removable oven doors for easy cleaning, automatic ignition, clock controls for timed cooking, interior lighting, and numerous other features.

Clothes dryers on parade

More automatic gas clothes dryers were in evidence at this year's exhibit than ever before. Two gas range manufacturers, for example, have just entered the field. Geo. D. Roper Corp. unveiled their new fully-automatic Dry-Aire model, while Caloric Stove Corp. introduced an automatic clothes dryer of their own.

Features of the new dryers exhibited include ultra-violet lamps to give clothes an "out-of-doors" freshness, interior lights that turn off automatically, and safety doors that shut off the burner instantly when they are opened.

Properties of steel for enameling

(Continued from Page 23)

The drawing quality of enameling iron is good but not as good as that of mild steel. Its yield and tensile strength are lower in the heat treated condition, as is also its ductility as measured by the Olsen and Ericksen cup tests. The lower carbon and manganese content of the metal account for the somewhat inferior drawing quality. However, very severe draws are possible with this metal, some examples being washing machine tubs, bath tubs and sinks, all of which are produced in a single drawing operation.

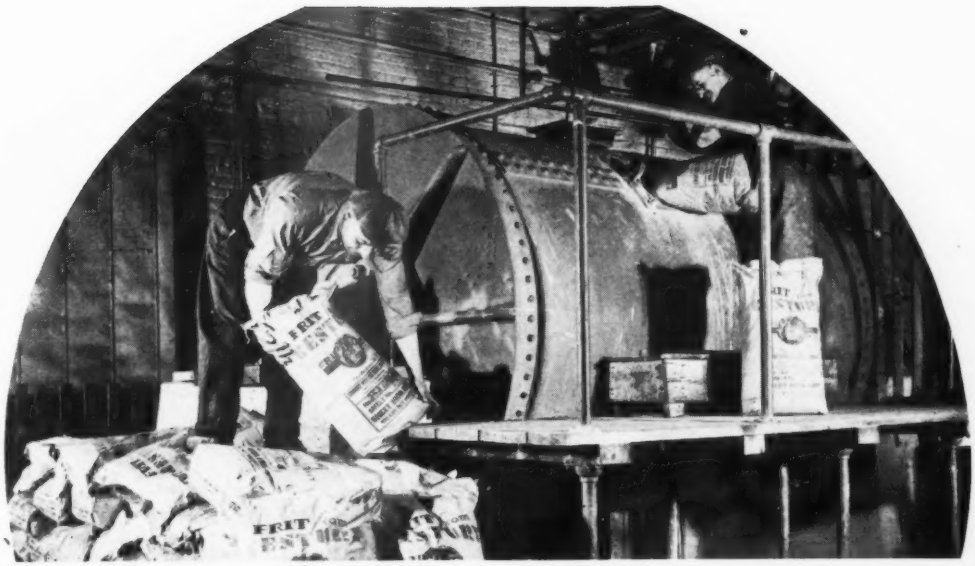
The enameling properties of this metal are good, and definitely superior to those of mild steel. This is due to the lower percentages of carbon and manganese present in the metal as referred to above.

The resistance to sagging and warping of enameling iron is good and also definitely superior to that of mild steel. This also is due to the relatively low percentages of carbon and manganese with the result that metal of this analysis has but one thermal transformation point — approximately 1600°F., which is above enameling temperatures. We find, therefore, that parts fabricated from enameling iron tend to be much truer to shape than similar parts fabricated from mild steel.

Special irons and steels

The introduction of enameling iron some 30 years ago was of tremendous importance to the enameling industry. Superior enameled ware was made available. Warpage was reduced, and less chippage resulted from thinner enamel coatings made possible by the more refined base metal. However, this improved base metal still left something to be desired; there were more enamel reoperations than desired; and white enamels could not be applied satisfactorily to the metal.

This matter of applying white enamel directly to the base metal has been the subject of research for many, many years because such a finish is highly desirable since enamel shop costs should thereby be reduced and a more satisfactory product result because of the thinner enamel coating. The advent of World War II initiated a period of intensive and sustained research on this problem. The supply of cobalt oxide for ground coats was limited, as was manpower. A sheet of this type was therefore highly desirable at that time. Several steel companies, frit manufacturers,



OVER 9,000,000 POUNDS



Over 9,000,000 pounds of Century ground coat frits have been prepared for application in this one mill by one of the country's leading manufacturers of fine gas ranges.

This large mill keeps on grinding Century frits, 6,000 pounds at a time, because the frits keep on producing the kind of trouble-free ground coat finishes that keep rejects down and adherence at its best.

It's the "grip" that counts in ground coats. This ability to "stay put" is of great importance to the modern kitchen range and to all metal products finished with porcelain enamel. Century *time-proved* frits will give *your product* this same advantage and you can be *sure* of your enamel adherence.

You take no chance in specifying Century *time-proved* ground coat frits, except a good chance of saving money in enamel plant operating costs.

Start right in 1953. Arrange now for a trial run of Century *time-proved* frit.

★ *Century produces a complete line of ground coat and covercoat enamels for all types of production porcelain enameling.*

FRIT from CENTURY FRIT MASTERS

CENTURY VITREOUS ENAMEL COMPANY

• 6641-61 S. Narragansett Ave., Chicago 38, Ill. •

and other suppliers to the enameling industry have and are continuing to work on the problem.

Many white ground coats have been developed in an effort to obtain thinner enamel coatings. There have been recent reports of special pickling and nickeling processes designed to make obtainable a single white coat finish on enameling iron and mild steel. It is our understanding that these latter methods show a noticeable advancement in the art but as yet have not been applied to large scale production.

Titanium bearing steel

Inland Steel has developed a titanium bearing steel designed to meet this problem. It has been marketed in limited quantities now for about five years, and the majority of it used for the application of white cover coat enamel direct to the metal. It is not a perfect base metal for enameling but its over-all performance has been such as to prove to the industry that good single coat white finishes are available and indicate the economy that results with their use. This knowledge has helped add impetus to the search for improved base metals for enameling and the authors know today of at least five steel companies who are concentrating on this problem, some of which are supplying special metals at least in small quantities for experimental enameling.

Our titanium bearing steel is a basic open hearth product containing sufficient titanium to combine with the carbon and having a typical analysis of: carbon, 0.05%; manganese, 0.30%; phosphorus, 0.010%; sulfur, 0.030%; silicon, 0.10%; and titanium, 0.30%.

It is fully deoxidized with aluminum additions (killed) to protect the titanium addition. The titanium (as low carbon 40% ferro-titanium) is added to the ladle. It is necessary, theoretically, to have four times as much titanium present as carbon — the ratio of the combining weights of titanium and carbon to form titanium carbide (TiC). This carbide is comparatively stable under enameling conditions, which apparently accounts for the good enameling properties of this metal.

The drawing quality of this metal is good. This metal has no definite yield point, but its yield strength measured at 0.5% offset is comparable to that of enameling iron.

There are several very interesting enameling properties of this metal. White cover coat enamels can and are being applied directly to the metal with good success. The titanium oxide enamels work well in a single coat and produce a finish having satisfactory reflectance at an enamel thickness of about .004 inches although production shops aim for about .005 to .006 for a single coat. This is approaching the thickness of a good paint finish. Also, the metal does not reboil which is of some importance in enamel processing.

Another interesting property of this metal is its comparatively high strength at enameling temperatures. This property helps explain the good resistance to warping, sagging, and hairlining of parts fabricated from it.

Part II of this article, which was adapted from a presentation before the 1952 Shop Practice Forum of the Porcelain Enamel Institute, will cover the general properties of base metals, including pick-up and physical properties.

Porcelain Enamel Institute annual meeting

(Continued from Page 43)

ing, enthusing, and inspiring your men. I firmly believe that most salesmen are made, not born. Selecting, hiring, training, all start men out right, but it's leadership that develops the kind of salesmen we need today."

Gilbert concluded that "this country needs and must have *two-fisted salesmen*. We can develop them only with *two-fisted leadership*."

D. H. Malcom, chairman, PEI Market Development Committee, related the accomplishments of the market development program; laid out the plans for the coming year; and pointed out that member companies can realize positive dividends through full utilization of the program.

Next, was the premiere showing of the Porcelain Enamel Institute's slide film, entitled "Porcelain Enamel—

PEI Board of Trustees for 1953

The following men, together with the officers, constitute the board of trustees of the Porcelain Enamel Institute for 1953.

A. S. Ault, Chicago Vitreous Enamel Product Co.
F. H. Bechill, Kaiser Metal Products, Inc.
J. J. Boehler, Heintz Manufacturing Co.
H. M. Brenner, B. F. Drakenfeld & Co., Inc.
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R. J. DeVoe, Davidson Enamel Products Co.
T. G. Harris, Porcelain Steel Corp.
E. M. Hommel, The O. Hommel Co.
R. S. Ingersoll, Ingersoll Products Division, Borg-Warner Corp.
Geo. C. Johnson, Jr., The Enamel Products Co.
J. W. Lelivelt, Nash-Kelvinator Corp.
G. R. Long, Frigidaire Division, General Motors Corp.
John V. Long, Solar Aircraft Co.
Burton Longwell, Republic Steel Corp.
W. H. Lowry, Vitreous Steel Products Co.
W. R. Mabee, The Tappan Stove Co.
J. H. E. McMillan, Ingram-Richardson Manufacturing Co.
Hugh V. Penton, California Metal Enameling Co.
H. A. Ringelberg, Challenge Stamping & Porcelain Co.
M. J. Salton, Seaporcel Metals, Inc.
Y. C. Smith, Alliance Ware, Inc.
H. R. Spencer, The Erie Enameling Co.
Hoyt P. Steele, Benjamin Electric Manufacturing Co.
Herbert Turk, Pemco Corporation
R. A. Weaver, Jr., Bettinger Corp.
W. F. Wenning, Ceramic Color & Chemical Mfg. Co.
Benton J. Willner, Inland Steel Co.

for Heat-Resisting Applications

INCOLOY

1. 32 Nickel—21 Chromium.
2. Resistance to oxidation.
3. Resistance to moderate sulfidation.
4. Freedom from sigma embrittlement.
5. Strength at high temperatures.
6. Good workability.
7. Good welding properties.

Incoloy is the newest member of the Inco High-Temperature Alloy family. It was developed as a companion to Inconel® and is permissible for use in applications described in NPA Order M-80, Schedule C.

Like the other INCO Nickel Alloys, Incoloy is on extended delivery because of defense demands. So it will pay you to anticipate your needs well in advance. When ordering, be sure to give NPA rating and complete end-use information.

When you want assistance on heat-resisting uses, Inco's High-Temperature Engineering Service is always ready to help you. Write for a High-Temperature Work Sheet on which you can outline your problem for their attention.

INCOLOY
...for Heat-Resisting Applications

INCO TRADE MARK

The International Nickel Company, Inc.
67 Wall Street, New York 5, N.Y.

The Material of 1000 Uses". It was presented and narrated by R. C. Myers. This film, produced as a part of the 1953 Market Development Program, is to be used as a sales tool and will be available to every member of the Institute.

New uses featured at general session

At the general session devoted to "New Uses," C. H. Lohman, of Pemco Corporation, spoke on the topic, "New Uses—From Mind to Market," a graphic presentation illustrating how an end product is evolved from a chain of ideas which might begin with a simple pair of porcelain enameled earrings and conclude with a porcelain enamel top for a coffee table.

Edward Mackasek, managing director of the Institute, unveiled a display of some forty porcelain enameled products ranging from decorative lamps, serving tables and gardener's tools, to bubble caps, truck mufflers and jet engine inner-liners.

Lescaze reports on curtain wall

William Lescaze, the Institute's curtain wall research agency, reported to the membership on his progress during the past year in his research and work in developing a true curtain wall. He pointed out the many complexities of the *true* curtain wall. Lescaze explained that the many types of walls which are being introduced and publicized widely today—in such buildings as the Lever House, the new Alcoa building, the U. N. buildings — are not actually curtain wall construction.

He then unveiled the first pilot model of a porcelain enamel curtain wall and went on to say that his pilot model was probably the best curtain wall, for a non-code area, as of today.

Divisional activities

Sign Division elected Hugh McE. Patton, Ingram-Richardson Manufacturing Co., chairman; J. R. Sweeny, Porcelain Metal Products Co. was named vice chairman; and H. A. Ringelberg, Challenge Stamping & Porcelain Co., was designated as budget officer.

A plan was approved whereby members of the Division will support a Sign Division Advertising and Promotion Fund. Plans were also made for the cooperative exhibit at the 1953 convention of the National Electric Sign Association, and a program for gathering statistical information on sign production was approved.

Architectural Division meeting had an attendance of more than 30 members, indicating a growing interest in the architectural field and its importance. M. Van der Kloet, of The Erie Enameling Co., was elected chairman of the division.

Steel Plumbing Fixture Division met Thursday afternoon. C. J. Rodman, of AllianceWare, Inc., chairman, presented a paper on "The Superiority of Steel Bathtubs."

General Enameling Division discussion centered around items that were displayed at the New Uses exhibit, and covered high temperature uses, potentials in piping, the market for architectural items and decorative accessories, industrial service and building products. Harold Ringelberg of Challenge Stamping & Porcelain Co. was elected as the new chairman for 1953.

Annual banquet and reception

On Thursday evening, members and ladies met for cocktails in the Casino which was set aside for the exclusive use of PEI members for the evening. Following cocktails the annual banquet was held. Featured at the banquet was presentation of an illuminated-lettered plaque and a silver bowl to R. A. Dadisman, retiring president of the Institute. Following the banquet was an evening of dancing in the Casino.

Golf proved the favorite sport. In crowded schedules there was found time for a round. This year Frank E. Jones, Jones Metal Products Co. shot a 75 for low gross score and received permanent possession of a two-foot replica of the President's Cup, and was given this year's custodianship of the large three and a half foot cup which is rotated each year.

E. M. Hommel received a prize for low net score; and Mrs. W. K. Muir for the second consecutive year was low gross winner among the ladies with a score of 80. Mrs. J. J. Boehler was low net winner among the ladies.

The board of trustees recommended that the 1953 meeting be again held at the Greenbrier. The dates are September 30, October 1 and 2.

RALPH BISBEE TO SERVE AS FINISH CONSULTANT

The editors of *finish* are pleased to announce that, effective immediately, Ralph F. Bisbee, manager of quality control, Westinghouse Electric Corp., Mansfield, Ohio, has been added to the list of associate editors and technical consultants serving *finish* readers.



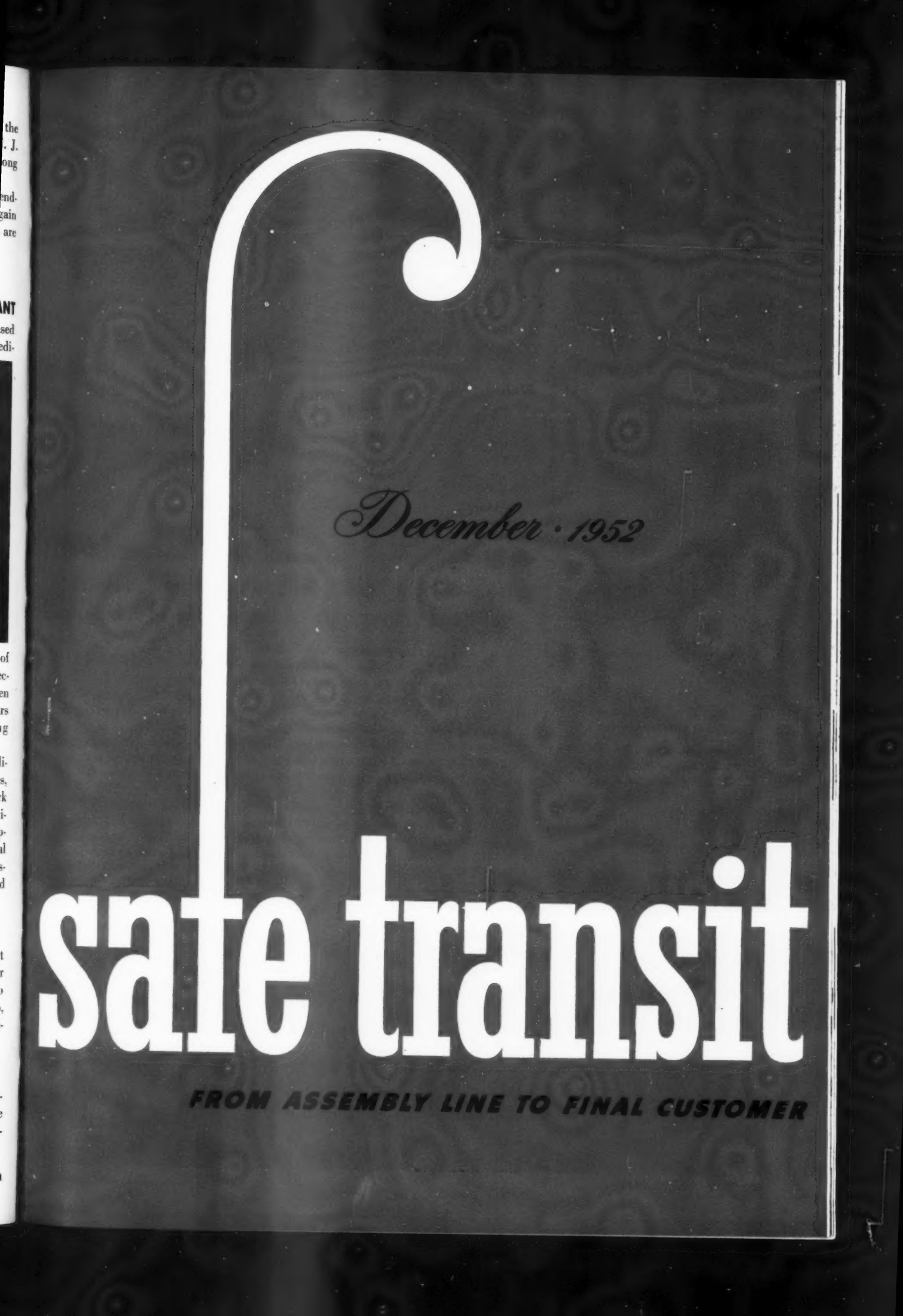
Well-known throughout the appliance and metal products industries, Mr. Bisbee has been active in work pertaining to quality control, materials handling, and packaging and shipping. He has been serving as general chairman of the National Safe Transit Committee since it was organized more than four years ago.

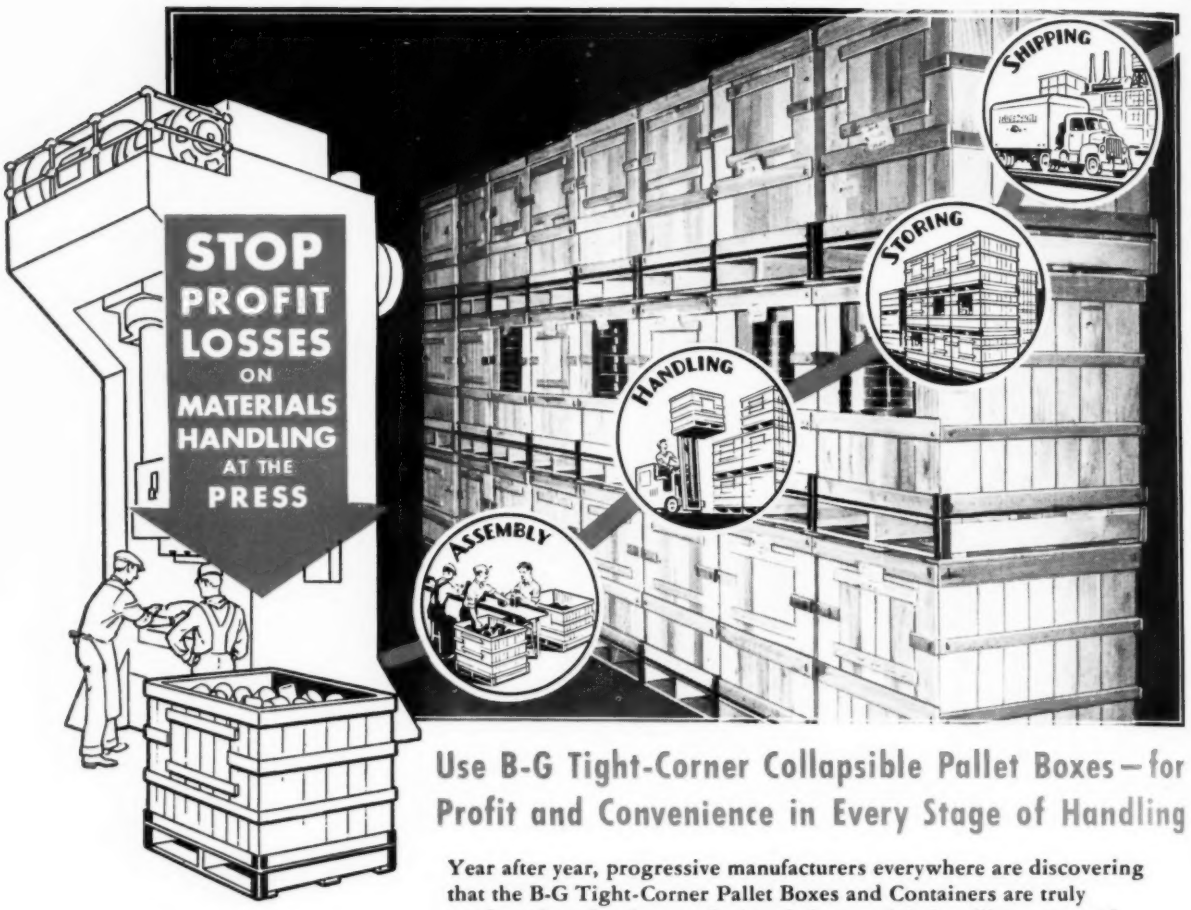
CHICAGO VITREOUS UPS FIELD

Charles N. Field, formerly export and traffic manager, is now director of purchases and traffic for Chicago Vitreous Enamel Product Co., Cicero, Ill. He has been with Chicago Vitreous 18 years.

COWLES SECRETARY-TREASURER

William M. Clossey has been elected secretary and treasurer by the board of directors of Cowles Chemical Company, Cleveland, Ohio.


December · 1952
sale transit
FROM ASSEMBLY LINE TO FINAL CUSTOMER



Use B-G Tight-Corner Collapsible Pallet Boxes—for Profit and Convenience in Every Stage of Handling

Year after year, progressive manufacturers everywhere are discovering that the B-G Tight-Corner Pallet Boxes and Containers are truly profit makers for them, reducing their materials handling costs and increasing storage space.

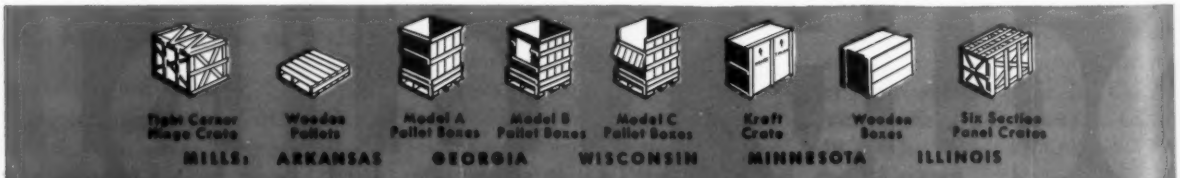
B-G Collapsible Pallet Boxes are light in weight, yet of ample strength to handle up to 5000 lbs. Collapsible feature is made possible by the *Exclusive B-G Tight-Corner Hinge.* Boxes come 65% assembled and require minimum storage space when not in use. B-G Boxes are economical and rugged enough to stand up under repeated shipments.

Whatever your handling problems may be—whether they involve difficulties and bottlenecks in your assembly lines, inter plant handling, storage or shipping, B-G Containers are the ultimate solution. Engineered to your specific requirements, B-G Tight-Corner Boxes will handle your product safely and efficiently and assure you lower cost on every operation.

USE B-G CONTAINERS FOR SAFE SHIPPING OF—

Castings, Metal Parts, Heaters, Stoves, Lathes, Drill Presses, Bath Tubs, Sinks, Washing Machines, Dryers, Ironers, Refrigerators, Deep Freezers, Stokers, Oil Heaters, Furnaces, Guns, Ammunition, etc. Anything that needs crating or boxing can be handled best the B-G way.

EVERY DAY MORE PRODUCTS ARE BEING HANDLED THE B-G WAY



MILLS: ARKANSAS GEORGIA WISCONSIN MINNESOTA ILLINOIS

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Write for complete details and prices to...

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safe transit

A monthly trade publication section devoted to improved packaging and shipping and materials handling practices in the home appliance and allied metal products field.

Plant experience information for all executives and plant men interested in the problem of packaging and shipping improvement and loss prevention.

Complete information on the National Safe Transit pre-shipment testing program for packaged finished products, and detailed progress reports of divisions and sub-committees of the National Safe Transit Committee.

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At Santa Fe's new freight house — *platform foreman at car door checks details of shipment by direct conversation with checker in central building of freight station. With this system, the waybill does not go to the platform crew, but the checker assigns block number to each car with a corresponding number on each tow-conveyor truck, as well as each load. This system relieves platform crews of "paperwork" and speeds up freight handling.* *(See story on Page ST-9.)*

Canadian packaging competition awards — *were announced at first exposition sponsored by Packaging Association of Canada. Photo shows the winners of the gold, silver and bronze awards.*

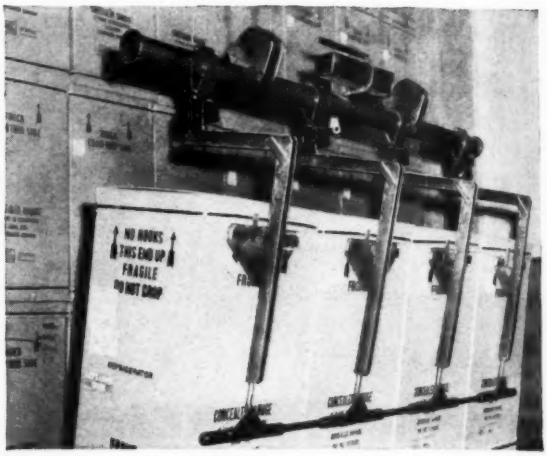


CUSTOM DESIGNED

HEAVY-DUTY SHIPPING CONTAINERS

International's heavy-duty corrugated shipping containers are now being used for such products as stoves, water heaters, washing machines, refrigerators and furnaces. Each product presented its own individual packaging problems.





GENERAL ELECTRIC **and our Container Division engineers designed and thoroughly tested this new package which provided better protection and enabled improvements in material handling methods. It was the first of our inter-locking TUBE-AND-CAP construction. Scored and folded corrugated sheets brace the refrigerator inside the outer container.**

For lifting, a special fitting was developed to eliminate a fork: a U-shaped lip that hooked under the edge of the top cover. (See above) In G. E.'s warehouse 4 refrigerators are picked up at one time.

After thousands of successful carload shipments damage claims have been less than for the previous type of package. The corrugated fibre container is now used for all G. E. household refrigerators.

International Paper company

CONTAINER DIVISION

220 East 42nd Street, New York 17, N. Y.

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Springhill, Louisiana
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New York 17, N. Y. 220 East 42nd St.
Wooster, Ohio 689 Palmer St.
Georgetown, So. Carolina

Pre-testing bulk packages

a Canadian manufacturer finds that pre-shipment testing resulted in development of better packages, and aided in quality control of products

by J. B. Coulson • TRAFFIC MANAGER, GENERAL STEEL WARES LTD., TORONTO, CANADA

OUR firm, which has been in business over 100 years, manufactures all types of sheet metal products including enamelled, aluminum, stainless, and plain steel wares. Our production includes all types of large household appliances such as stoves, refrigerators, washers and water heaters, plus custom-made hotel and kitchen equipment, bathtubs and other plumbing supplies.

The cast iron stove has been replaced by the modern enamelled steel stove, and the cast iron cooking utensils have surrendered to the steel and aluminum utensils. Changes in merchandising and sales policies have also aided in bringing many alterations in packaging design and construction.

Up to about three years ago, our four manufacturing plants were responsible for their own packages. Since that time, full responsibility for packages and packaging methods was placed under the supervision of the traffic department.

In this article, we are referring to shipping packages only—and not to packages used for display or advertising purposes. A newly-designed package usually looks good on the shipping room floor. but the final judgment should be made when it is delivered at the final destination.

Adopt Safe Transit procedures

Our problem was to find out if our packages were properly designed to protect the contents from the end of the production line to the final destination. The proper thing to do was to pre-test our packages.

After an article is damaged, it is sometimes difficult to ascertain the cause of damage. We checked various sources of information. Time would not allow us to trace every shipment, so we decided to follow the plan developed by the National Safe Transit Committee in the United States.

We adopted the procedures outlined in the booklets issued by the Safe Transit Committee, and either purchased or made the necessary testing equipment.

For our smaller packaged products in cartons we purchased a drop tester. Testing larger appliances such as stoves and refrigerators presented a different problem, so we purchased a vibration tester. The test just mentioned did not give us a true picture of all transportation hazards, so we built an incline impact (Conbur) machine according to specifications laid down by the NST Committee.

In testing on both the vibration and impact machines, we use a shock recording machine, and our products are tested to withstand shocks they would *not* normally receive in transit. We also use the vibration machine to

Photo shows drop testing equipment at General Steel Wares. In background is an enclosed circular conveyor leading to stock room on a lower floor.



test products packaged in cartons where damage occurs other than by impact.

Reduced damage losses

We have found these testing machines to be satisfactory. They provide a uniform testing procedure, and have proved that we can check the quality of our products and the effectiveness of our packaging. We have reduced damage losses, and in a large number of cases have reduced packaging costs.

Freight carriers of all kinds endorse such testing equipment, and the cooperation we have received from carriers has been very much appreciated. We do not overlook the wonderful cooperation given to us also by the suppliers of packages and packaging material.

Better packages developed

The results of these tests do afford an excellent indication of whether product and container will stand up to actual handling conditions, both before, during and after transportation.

We have found these testing methods aided us to develop better packages, aided in quality control of products, reduced loss to carriers, and paid dividends in the form of reduced packaging costs.

Adapted for finish *from a presentation before the Packaging Association of Canada.*

SAFE TRANSIT CERTIFICATION FOR QUINCY STOVE, FIRESTONE

The National Safe Transit Committee has announced the certifications of Quincy Stove Mfg. Co., Quincy, Ill., and Firestone Steel Products Co., Wyandotte, Mich. This is the second Firestone plant certified recently.

ILLINOIS TECH PACKING, HANDLING NIGHT COURSES

Following is an outline of the future "Packaging and Materials Handling" courses to be conducted on Wednesday evenings at the Illinois Institute of Technology, Chicago.

December 3 — "Materials Handling: Basic Principles" by J. W. McReynolds; *December 10* — "Materials Handling Equipment" by R. F. Weber; *December 17* — "Flow of Materials" by John W. McAloon.

January 7 — "Warehousing and Storage Operations" by Wm. P. Hattendorf; *January 14* — "Materials Handling Cost Analysis and Control" by C. J. Phiscator; *January 21* — "Organization and Management of Packaging and Materials Handling" by Paul O. Vogt.

The course was developed in cooperation with the Illinois Division of the Society of Industial Packaging and Materials Handling Engineers.

COLUMBIA U. PACKING ENGINEERING NIGHT COURES

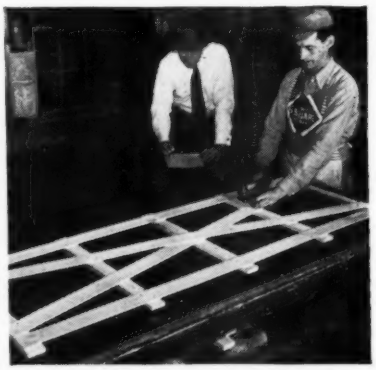
Following is an outline of future "Package Engineering" courses to be conducted on Wednesday evenings at Columbia University, New York City.

December 3 — "Multiwall Paper Shipping Sacks" by Frank Pocta;

WEYERHAEUSER CRATES

are pre-tested

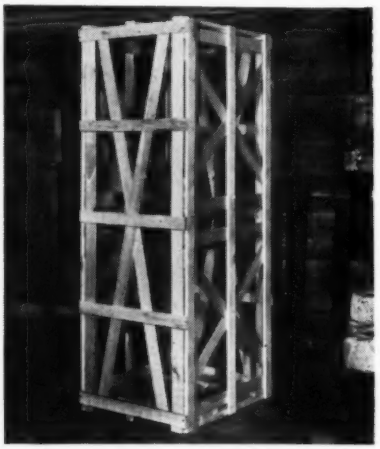
3 ways



1 Weyerhaeuser crates are carefully engineered and pre-tested three ways. Crating engineers give special attention to stress requirements and practical construction.



2 When a design is agreed on, engineers make and test a working sample, to make sure the new design will meet size, construction and nailing requirements.



3 As the final step, Weyerhaeuser checks each crate, part by part, for correct and easy assembly, extra strength and rigidity.

Weyerhaeuser "pre-tested" crates are shipped in sections . . . strapped for palletized handling, or in bundles for one-man handling . . . and are immediately available to meet your needs. For complete information, phone or write

Weyerhaeuser Sales Company

INDUSTRIAL WOOD PARTS DIVISION

Room 2139, 400 West Madison, Chicago, Ill.



ST-6

December 10 — "Adhesives, Tapes, Steel Strapping, Wire Tying and Marking" by Paul H. Paulsen; *December 17* "Military Packaging and Packing" by Frank Cohen.

January 7 — "Case Histories of Shipping Containers" by Maj. Frank W. Green; *January 14* — "Case Histories of Unit Containers for Retail Distribution of Various Products" by Walter J. Byrd; *January 21* — "Testing Equipment and Methods" by Earl R. Stivers.

This course was developed in cooperation with the Eastern Division of the Society of Industrial Packaging and Materials Handling Engineers.

MATERIALS HANDLING SHOW IN PHILADELPHIA, MAY 18-22

The 5th National Materials Handling Exposition, to be held at Convention Hall, Philadelphia, May 18-22, will be the largest capital goods show in the country during 1953, it was announced by Clapp & Poliak, Inc, exposition management.

The exposition, held for the first time in 1947, is expected to attract 25,000 visitors from 50 countries.

The Material Handling Institute will sponsor the show. Concurrently, the American Materials Handling Society will conduct a series of conferences.

GENERAL BOX APPTS.

J. A. Cragwall, president, General Box Co., Chicago, has announced the appointments of Emil Holzwart as production manager to fill the vacancy left by the death of D. F. Hahn, and R. G. Hayden as plant manager of the firm's wood box division at Louisville.

J. R. KIMBERLY NAMED EXEC. V. P. OF KIMBERLY-CLARK

John R. Kimberly has been elected to succeed Ernst Mahler as executive vice president of Kimberly-Clark Corp., Neenah, Wis., it was announced by Cola G. Parker, president. Mahler retired after 38 years.

Kimberly is a grandson of James A. Kimberly, one of the firm's founders. He was recently vice president in charge of sales.



HORRIBLE EXAMPLE. These gun barrel blanks were shipped in wire-bound bundles which were improperly bundled and braced in the gondola. *Results:* barrel ends were damaged, and the entire shipment was in shambles. Many man-hours were required to recooper the bundles before they could be unloaded.



WISE SOLUTION. At the suggestion of a Signode fieldman, the next shipment was bundled by the tested and approved* method shown here—with heavy-duty *Signode* steel strapping. *Results:* Shipment received in perfect condition. Crane was able to unload car rapidly because each bundle was still intact, thus saving time and labor.

Do this now—to insure against similar losses . . .

First, send for a Signode fieldman! You will be under *no* obligation. His advice will be sound. It is based on *experience*—and backed by the engineering facilities of Signode! His tested and approved* recommendations are sure to result in improved packaging and shipping methods, and profitable economies in materials used, manpower and time. Write today for the services of a Signode fieldman!

*Another exclusive service proved and tested for you by Signode

SIGNODE

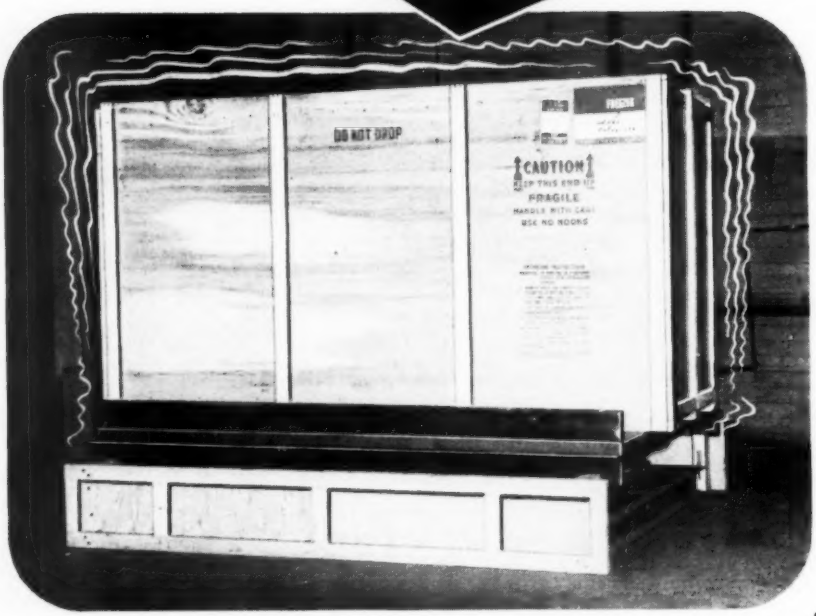
Steel Strapping Company
2639 N. Western Ave., Chicago 47, Ill.

This Seal means security in shipping

Offices coast to coast. *In Canada:* Canadian Steel Strapping Co., Ltd.
Foreign Subsidiaries and Distributors World-Wide

ST-7

CHICAGO MILL'S LABORATORY ROAD TEST





We check your crated product to pre-prove its shipability

This vibration or "laboratory road test" is one of the standard tests applied to your finished crated product in the Chicago Mill Laboratory. The test duplicated the vibrational shocks encountered during transportation.

Here is only one step in the pre-proving program of our completely equipped and staffed laboratory — a National Safe Transit Certified Laboratory.

Chicago Mill is the *only* single source for all the types of crates and boxes listed. Our engineers will recommend the type of crate or box best suited to your product.

Technical information, packing information and testing services are available without obligation.

Any Chicago Mill representative will arrange for engineering or testing services — or just write or phone our Chicago Office.

Wirebound,
Nailed or Hinge Corner
Cleated Plywood
Cleated Craveneer
Cleated Corrugated
Watkins Type Containers
Shop and Tote Boxes
Woodsteel Nesting Boxes

★

FOR DOMESTIC OR EXPORT
FOR PEACE OR DEFENSE

A SHIPPING CRATE OR BOX TO FIT ANY SHIPPING PROBLEM

FOR SAFER TRANSIT BY • TRUCK • BOAT • TRAIN • PLANE

CHICAGO MILL AND LUMBER COMPANY

33 South Clark Street **Chicago 3, Illinois**

Plants at: Helena, Arkansas • Greenville, Mississippi • Rockmart, Georgia
Tallulah, Louisiana • South Fork, Colorado • Chicago, Illinois

Santa Fe builds new freight house

latest in freight handling devices and communication systems installed in 1325-foot long freight house in Chicago

EMPLOYING the latest in freight handling devices and equipped with the latest developments in communications systems in the country, the Santa Fe Railway officially opened its new freight house in Chicago. The freight house is the culmination of an improvement program for less than carload merchandise handling in the Chicago yards started by Santa Fe approximately two years ago.

In addition to completing the new freight house, Santa Fe also opened a new general office building for its yard employes in a new modern structure located at the north end of the Corwith Yards. The superintendent, agent and their forces will occupy the new building, adding to Santa Fe's efficiency in offering its services to the shipping public. Many old structures throughout the yard are being removed, allowing more room for a new modern yard. A new diesel facility has been constructed for servicing yard and road service locomotives at Chicago, the eastern terminus of the Santa Fe.

The new freight house is 1,325 feet long and 204 feet wide and is served by six tracks equipped to accommodate 156 cars. One of the six tracks is depressed for loading and unloading of refrigerator cars.

Tow-type conveyor system

First time to be built into a railroad freight station in the nation is a tow-type conveyor system, utilizing roller type chains. This system was especially designed for the new Chicago freight house by Santa Fe engineers and the conveyor manufacturer.

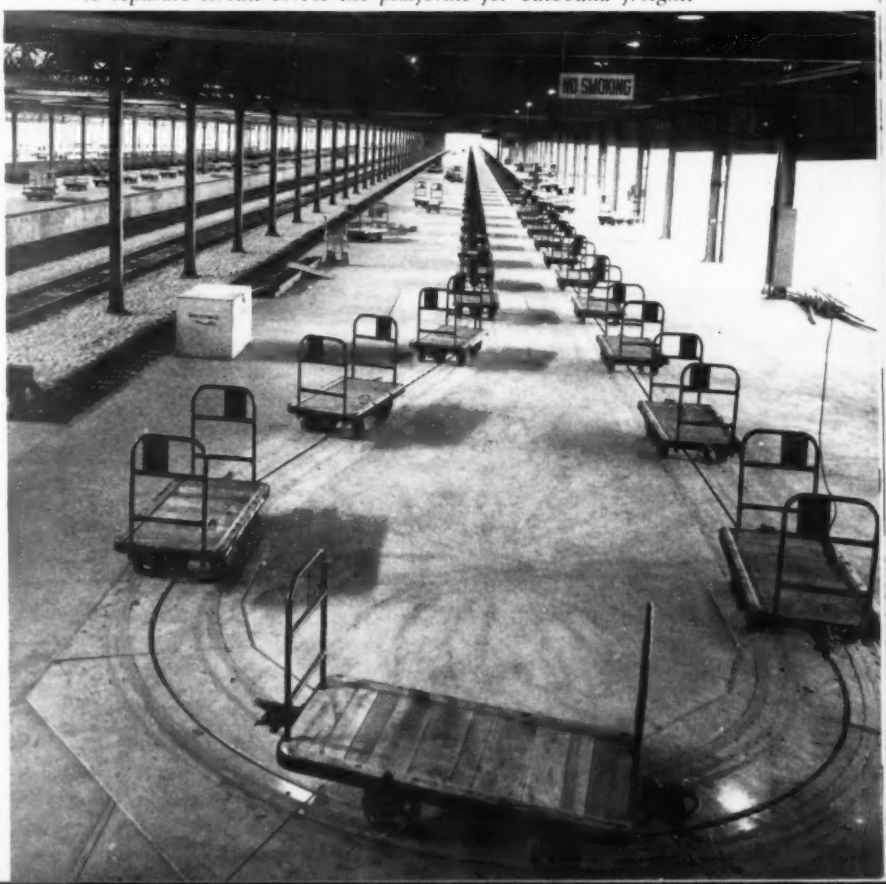
The conveyor operation consists of a roller-type chain installed in the floor of the station platform with special slot openings. Built into the chain 15 feet apart are catch devices that couple to a pin which drops from the bed of the four wheel conveyor truck into the slot openings. The entire system has a capacity of 500 four-wheel platform trucks. A foot pedal, attached to the bed of the freight truck allows the freight handler to raise or lower the pin into the revolving chain with a minimum of effort. The roller chain moves at a variable speed of 110 to 160 feet per minute and is in constant motion.

The conveyor operates on two separate circuits. One circuit serves the three out bound freight tracks and the other circuit the inbound tracks. Besides the conveyor system, there are auxiliary mechanical freight handling equipment, such as fork-lift trucks, heavy-duty dollies, etc.

New communications system

Communications play an important part in the proper handling of incoming and outgoing freight. Through a central board in the main office of the new freight house, nine freight checkers at specially designed desks can be placed in direct conversation with any one of the 35 portable talk-back speakers or any one of the 132 plug-in communica-

This tow-type conveyor circuit serves the inbound freight platform. A separate circuit serves the platforms for outbound freight.





An easy to operate device, known as the "Santa Fe Pin", is raised or lowered into moving chain by foot pedal on either side of tow-conveyor truck. Here a freight handler is shown operating the foot pedal.

tions placed in the vicinity of box cars and motor trucks at loading and unloading docks.

These checkers have soundproof partitions around their desks and "talk" and "listen" communications sets are operated with foot pedal controls allowing both hands free for handling their waybills. In the main building, the general foreman and staff have direct communications to all parts of the station. On the platform are two small enclosed offices for personnel supervising all platform operations, as well as motor truck loading and unloadings.

The location, at 47th and Hamlin Avenue, was selected for Santa Fe's new freight house because of the excellent location traffic-wise. Served by a four lane trafficway, trucks loaded with outbound freight find easy entrance to the west side of the station over wide concrete aprons. Trucks can circle north end of the new facility without leaving the freight station grounds. The outbound freight dock can accommodate 72 trucks.

The new freight house is completely covered and provided with the newest skylight and ventilations systems available. All doorways for motor trucks are provided with outlets for the centralized checking system.

Trucks picking up inbound freight reach the station over wide concrete aprons on the east side of the new freight station where 50 trucks can be accommodated at one time. A five-ton hoist is provided to facilitate the loading and unloading of heavy freight from open bed tracks. A 35-ton gantry crane has been constructed on property adjoining the east side of the new facility.

Not only has Santa Fe built a modern freight handling station for the use of shippers, but in this new installation the most modern in employe facilities are available. These include modern locker rooms, a clean and bright lunch room and modern shower bath facilities done in latest type tile and decorated in light color schemes.

First Canadian packaging show *— was held recently in Toronto. Photo shows the judges in the concurrent packaging competition. J. P. Gledhill, retiring president, Packaging Association of Canada, stated that in view of the high degree of interest shown by both exhibitors and visitors, another exposition will be held in 1953.*



Designed for STRENGTH *and* LIGHT WEIGHT



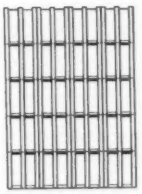
Scientifically designed Watkins Containers combine *maximum strength* to carry your products safely with *minimum weight* in the container itself.

Smooth, staple-free interiors protect the fine finishes of your products, keep out dust and dirt. Sturdy exteriors carry your products safely, offer the extra "Traveling Billboard" feature providing for your advertising message in two colors on all sides.

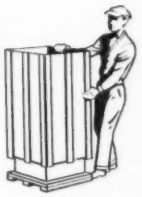
Watkins Containers arrive at your factory 75% assembled, are easily and quickly completed to speed up assembly line packing. Vertical wood cleats provide exceptional supporting strength for stacking to any practical height. Strong all-wood cleats glued to tube-mat enables container to better resist weaving, shock, and distortion.

Check with any of the manufacturers listed below.

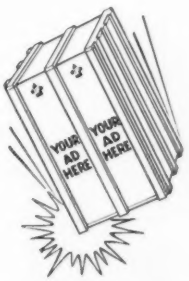




QUICK Assembly line packing is speeded up. EASY TO HANDLE. Complete protection for your product.



STACKING Vertical wood cleats provide EXCEPTIONAL SUPPORTING STRENGTH to carry heavy loads. Typical crate supports 4 tons.

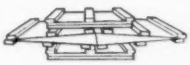


STRONG All wood cleats securely glued to tube-mat. Laboratory tests prove glued cleats RESIST WEAVE AND DISTORTION BETTER.





STORING Containers are delivered flat (only 3 sections) and closely nested to CONSERVE STORAGE SPACE.





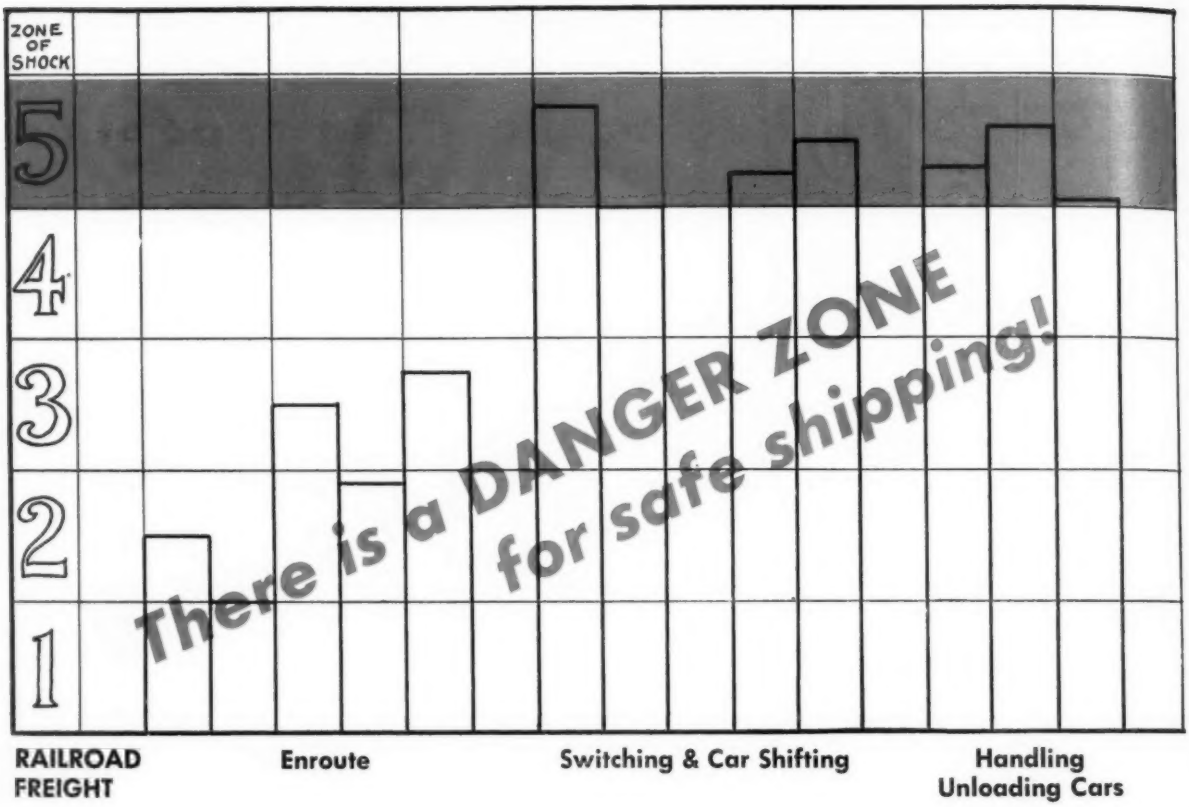
THERE IS A WATKINS CONTAINER MADE NEAR YOU

These companies build WATKINS containers

CORNELL PAPERBOARD PRODUCTS CO.	1514 E. Thomas Ave., Milwaukee, Wis.
COZIER CONTAINER CORP.	446 East 131st Street, Cleveland, Ohio
CRATE-RITE MFG. CORP., Division of Pacific Ports Ind. Inc.,	10901 Russet Street, Oakland, California
DURA-CRATES, INC.	940 East Michigan Street, Indianapolis, Indiana
GENERAL BOX CO.,	1825 Miner St., Des Plaines, Illinois, and 16th and Maple Sts., Louisville, Kentucky
HEMB & MARTIN MFG. CO.	Watseka, Illinois
ILLINOIS BOX & CRATE CO.	811 Center Street, Plainfield, Illinois
KIECKHEFER BOX & LUMBER CO.	1715 West Canal Street, Milwaukee, Wisconsin
LANE CONTAINER CORP.	10212 Denton Road, Dallas, Texas
LEWISBURG CONTAINER CO.	243 Singer Street, Lewisburg, Ohio
LOVE MFG., INC.	608 South Commerce Street, Wichita, Kansas

—an inquiry to any of these companies will get prompt attention—

The · WATKINS CONTAINER · Manufacturers



MORE and more manufacturers of Finished Products are learning about the DANGER ZONE for safe shipping. Through the National Safe Transit program for decreasing packaging and shipping losses they are learning:

1. **How to improve their product designs and manufacturing techniques for safe delivery.**
2. **How to package, handle and ship for safe delivery.**

The NST pre-shipment testing procedures lead to the answers to these questions and save them money too.

As the editorial spearhead for the NST program, the Safe Transit section of *finish* offers information on proper packaging and the why and how of good materials handling, packaging and shipping procedures.

Safe Transit offers a perfect editorial background for the advertising of quality products, materials and equipment for the packaging, shipping, and handling of home appliances and other finished metal products.

These companies advertised in the SAFE TRANSIT SECTION of FINISH during 1952.

American Box Company
Atlas Plywood Corporation
Bigelow-Garvey Lumber Company
Car Blocking, Inc.
Chicago Mill & Lumber Company
Cornell Paperboard Products Company
Gaylord Container Corporation
General Box Company
A. J. Gerrard & Company
Gilman Bros. Company
Impact Register Company
International Paper Company
Kieckhefer Box & Lumber Company
Kimberly-Clark Corporation
Menasha Wooden Ware Corporation
Rathborne, Hair & Ridgway Box Co.
Signode Steel Strapping Company
Union Steel Products Company
Watkins Container Mfrs. Association
Weyerhaeuser Sales Company
Wirebound Box Mfrs. Association

Dana Chase **PUBLICATIONS**

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finish

Industrial packaging, handling exposition

report continued from press-time news presented in November issue

AT THE 7th annual Industrial Packaging and Materials Handling Exposition, held in mid-October in Chicago, the prize winning awards in the annual Protective Competition were announced.

Both the Exposition and Competition are sponsored by the Society of Industrial Packaging and Materials Handling Engineers. In addition, there was a Packaging and Materials Handling Short course, sponsored jointly by SIPMHE and the College of Mechanical Engineering, University of Illinois, Extension Division.

Competition awards

The number of entries in this year's Protective Packaging Competition exceeded those of any previous year. The winners were as follows:

Group 1 — Corrugated or solid fibre boxes: 1st prize, Ralph Hawes, Radio Corporation of America, Camden, N. J.; 2nd prize, Frederick J. Thieme, Ternstedt Detroit Division, Detroit, Mich.; 3rd prize, Carl H. Wanser, Everbrite Electric Signs, Inc., Milwaukee.

Group 2 — Nailed wood boxes and crates: 1st prize, Harry A. Hunt, Burroughs Adding Machine Co., Detroit; 2nd prize, Herbert N. Lemmerman, Airco Equipment Mfg. Div., Union, N. J.; 3rd prize, J. Elmer Baird, Aeroproducts-Allison Division, GMC, Dayton, Ohio.

Group 3 — Wirebound boxes and crates: 1st prize, George J. Weiler, Ford Motor Company, Dearborn, Mich.; 2nd prize, William G. Joralemon, L. O. Koven & Bros., Inc., Jersey City, N. J.; 3rd prize, Harry C. Gladden, Locke Department, General Electric Co., Baltimore, Md.

Group 4—Cleated panel boxes: Ed Lidgard, Studebaker Corporation, South Bend, Ind.; 2nd prize, G. H. Wilde, Quincy Stove Co., Quincy, Ill.; 3rd prize, W. E. Christopherson, Douglas Aircraft Co., Santa Monica, Calif.

Group 5—General: T. R. Polglase, Anaconda Wire & Cable Co., Muskegon, Mich.; 2nd prize, William W. Arnold, Douglas Aircraft Co., Santa Monica, Calif.; 3rd prize, Kenneth E. Glantz, U.S. Department of the Army, San Francisco Ordnance District, Oakland, Calif.

Group 6 — Export packages: Wilburn Couch, Truck & Coach Division, GMC, Pontiac, Mich.; 2nd prize, Earl K. Gustin, Bendix Products Division, South Bend, Ind.; 3rd prize, George J. Weiler, Ford Motor Co., Dearborn, Mich.

Group 7—Materials handling: Edward J. Runzer, General Electric Co., Erie, Pa.; 2nd prize, Charles A. Berry, Automotive Air & Vacuum Brake Division, Midland Steel Products, Detroit; 3rd prize, John C. Hencel, Westinghouse Elec. Corp., Beaver, Pa.

finishfotos from exposition . . . →

Entries in Protective Packaging and Materials Handling Competition exceeded those of any previous year. Three winners were presented in November. Two other winners are shown here. Below: First prize in Group 2 was won by Harry A. Hunt, of Burroughs Adding Machine. Right: First prize in Group 3 was won by George J. Weiler, of Ford Motor Co.







General Box — *N. A. Fowler, General Box; R. Gaynes and T. J. Worhol, Ford Aircraft; Ray Honza, Darrel Murray and Vic Harju, General Box*



Union Steel — *K. E. Thurlwell, Burd Piston Ring; E. W. Allen, Union Steel; F. H. McCalman, Burd; Glenn Crissman, Crissman Co.; Don Kelsey, Kelsey Co.*

PHOTOS FROM INDUSTRIAL PACKAGING



Signode Steel Strapping — *G. C. Mickelsen, Signode; D. A. Whitehill, Mississippi Glass; Burt Bresler, Signode Steel Strapping Co.*

FINISH FOTOS



U.S.A.F. — *D. C. Jordan, Atlas Plywood, inspects moisture and vapor proof barrier and fiber glass cushioning.*

Kimberly-Clark — *Bernard Petersen, Nash-Kelvinator; E. C. Evans, K-C; R. A. Beth, N-K; Art Croxon, L. E. Pasek, K-C; Robert Harker, Container Corp.*

Rathborne, Hair & Ridgway — *W. J. Hildy, Rathborne; Walter Speth, General Electric; G. A. Hutchison, Rathborne, Hair & Ridgway Box Co.*







Acme Steel — *H. Schmidt, Acme Steel; R. F. Erwin, Climalene; W. M. Minehart, Acme Steel; E. L. Elliott, Delta Airlines.*



International Paper — *Richard E. Oas, A. Argondizza, Art Sackrison, Ralph Beach, and Walter Newstrom, all of International Paper.*

MATERIALS HANDLING EXPOSITION



Gilman Bros. — *Joseph A. Schaefers, The Strathmore Company; and Charles M. Gilman, Gilman Bros.*

FINISHFOTOS



Gaylord Container — *William M. Layman, General Electric, Fort Wayne; and Robert S. Baum, Gaylord Container Corp.*

Atlas Plywood — *R. H. Ingersol, J. R. Culp, Allen F. Jordan, Chas. Molesworth, all of Atlas Plywood Corp.*

Wirebound Box Mfrs. Assn. — *E. F. Gallivan, Wirebound Box; Steve Swiderski, International Harvester; W. B. Swift, Crosby Forest Products.*





SAFE TRANSIT NEWS

NATIONAL SAFE TRANSIT COMMITTEE

DuPont Circle Building, 1346 Conn. Ave., N.W., Washington 6, D.C.

New Safe Transit Companies - New companies that joined this month in the National Safe Transit Program are Firestone Steel Products Co. in Wyandotte, Mich. and The Quincy Stove Manufacturing Company, Quincy, Ill. Firestone initiates the Program in this second plant with the adoption of the test procedures for steel metal cabinets, and Quincy Stove for oil heater units. With the addition of these companies, Safe Transit participants now total 114.

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Government Agencies Interested in Safe Transit - Several government agencies are carefully studying the National Safe Transit Program and its pre-shipment testing procedures for possible inclusion in government specifications. They feel that the pre-shipment tests may adequately fill the Services' need for certain packaging specifications. The Navy's Bureau of Supplies and Accounts has already included the Safe Transit procedures in several procurement specifications covering domestic appliances.

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Safe Transit Film Has Advance Showing - At the request of The Research Institute of America, Inc., a special advance presentation of the new Safe Transit film was held October 24 in New York for visitors from the French Packaging Institute. The group, which represents a membership covering every important industry in France, was enthusiastic in its reception of the film and the Institute's Secretary is hoping to purchase one or several copies to take back to France. The team is visiting in this country under the auspices of the Mutual Security Agency.

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Safe Transit Labels Herald Program - In October, close to one million labels were received in the plants of Safe Transit companies for use on packaged products meeting the ST test requirements. This new high in label shipments is indicative of the growing importance of the red and yellow label as a means of telling carriers, distributors, and retailers that the manufacturer has done his part to assure the safe delivery of his products. The role the label is claiming is evidenced by inquiries received in the headquarters office of the Committee. These inquiries are coming from carrier representatives, manufacturers wrestling with the problem of transit losses, and distributors, who have caught the message of the label and want complete information on the Safe Transit Program.

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Carrier Coordinating Meeting in Dayton - The Carrier Coordinating Division, chairmanned by C. P. Carr of Frigidaire Div., General Motors Corp., met in Dayton on November 17. Present were representatives of the Association of American Railroads, Railway Express Agency, American Trucking Assns., Inc., and Air Cargo, Inc. Under discussion was a program for furthering the interchange of information between carriers and manufacturers. Safe Transit News will report on the Program as it is carried out.

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Educational Activities - Speaking engagements undertaken by Committee members have been important in extending the influence of the National Safe Transit Program, and this phase of educational activities is continuing. Now on the agenda is an NST talk by Paul Bush, NST Technical Planning Division, to be given before the Illinois Chapter of the Society of Industrial Packaging and Materials Handling Engineers on December 4 in Chicago.

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Requests for Safe Transit Film - Advance requests for permission to show the new NST color film are being received in the Washington office. They will be handled in order of their receipt. Look for full information in the next issue of ST News.



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Firm _____

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LEOPOLD BLOCK DIES

Leopold E. Block, 83, honorary board chairman, Inland Steel Co., died November 11. Born in Cincinnati, he went to Chicago in 1897 to join his brother, Philip D. Block, and others who had started Inland Steel in 1893.

WESTERN PACIFIC TO TEST EXPERIMENTAL BOX CARS

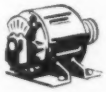
In a step to further its program of minimizing damage to goods in transcontinental shipment, Western Pacific Railroad has announced a cooperative arrangement with Pullman-Standard Car Mfg. Co. to take delivery of two experimental rubber cushion underframed box cars for service testing.

The cushioned underframe with sliding sill is the latest development in Pullman-Standard's research and development division's three-year-old program to provide railroads with shock protected service.

Leo F. Delventhal, Jr., San Francisco, a representative of the research bureau of Western Pacific, who together with A. H. Lund, assistant traffic manager at Chicago, took delivery of the two cars at Pullman-Standard's plant in Michigan City, Ind., said the cushioned underframe box cars will be placed in special transcontinental freight service between west coast and eastern terminals (see article "*Improvements in Carloading Techniques*" by Mr. Delventhal, Page ST-13, June 1952 *finish*).

your competition may be MORE than one jump ahead if you make these products: kitchen ranges • water heaters • regulators • refrigerator units • pumps • motors

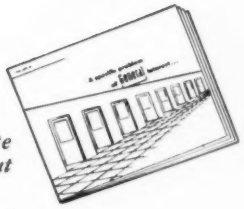







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